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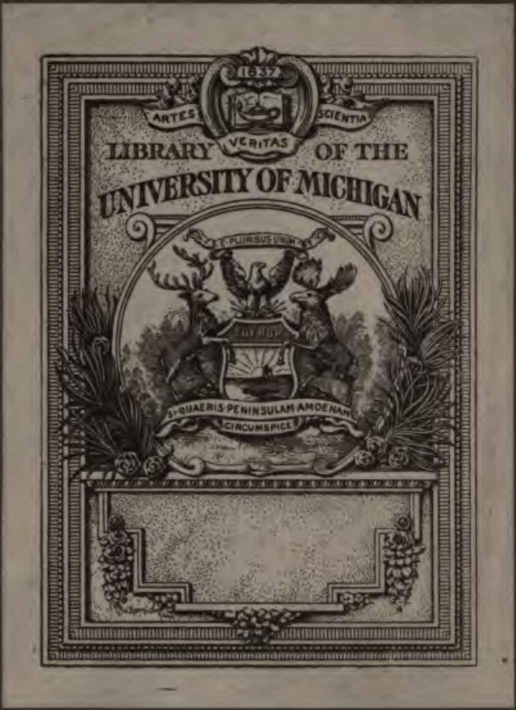
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# ON THE VARIOUS FORMS OF PARALYSIS AND THEIR TREATMENT.

By RICHARD HUGHES, L.R.C.P. ED. (Exam.).

(*Continued from Vol. XXVI, p.* 552.)

III. I HAVE now to pass in review the various medicines which have caused paralysis, or which have proved beneficial in its treatment, with a view to precisionise their application to the several varieties of the disease which we have been considering. And first of those which have actually caused paralysis.

*Acidum Oxalicum* is the first on my list. The facts concerning its paralytic action are the following.

When administered to animals in such a manner as that it can be absorbed "the first unequivocal sign of its action is generally a slight permanent stiffness of the hind legs and increased frequency of the pulse. About the same time there appears a slight sudden check in inspiration, from the respiratory muscles contracting before the chest is fully expanded. Gradually several of these come together, so as to constitute paroxysms of short, hurried breathing, with intervals of ease. Meanwhile the stiffness of the hind legs increases; they become likewise insensible, and often the spasm gives place to paralysis: he jerks the head occasionally backwards, walks with a peculiar stiff gait, and assumes very odd postures, from inability to regulate the motions of the limbs. As the poisoning advances, the motions of the chest during the paroxysms become more and more confined by spasms of the muscles; and at last there is a period towards the close of each paroxysm, when the spasm is so great as completely to suspend the respiration. This is commonly accompanied with more or less extension of the head, tail, and extremities, sometimes amounting to violent opisthotonos. . . The insensibility, hitherto limited to the hind legs, now extends to the trunk and fore-legs, and lastly to the head. As the insensibility increases, the breathing diminishes in frequency, the spasmodic paroxysms become more and more obscure, and then cease altogether. For some time, however, they may be slightly renewed, by striking the back and limbs; but at last the animal falls into a state of deep pure coma, with complete relaxation of the whole body. The heart can now scarcely be felt; the breathing is low, regular, and short, and becomes gradually more obscure, till finally life is extinguished without a struggle." If the dose be larger "the fits of spasm come on early and with great violence, the intervals are marked by remissions only, and the animal expires in a paroxysm, before the stage of insensibility begins. . . Death may be produced in this manner in three, five, or ten minutes. If on the other hand the dose be much diminished, there may be stiffness of the hind legs, much dulness, drooping of the whole body, and a sort of somnolency, without insensibility, or even without spasmodic paroxysms, and then the animal will commonly recover."

This summary is taken from the original paper in the *Edinburgh Medical and Surgical Journal* by Drs. Christison and Coindet. The former, in his Treatise on Poisons, adds the following as regards the effects of the acid on the human subject. "The best instance yet related of the development of nervous symptoms in man is a case described by Dr. Scott of Cupar, of a girl who swallowed by mistake a solution kept for cleaning brass, and containing about two drachms. She did not vomit until emetics were given, but complained much of pain, which was succeeded by great lassitude and weakness of the limbs, and next morning by numbness and weakness there as well as in the back. This affection was at first so severe that she could hardly walk upstairs; but in a few days she recovered entirely. There is also evidence to the same effect both in Mr. Hebb's patient and in Dr. Arrowsmith's case. The first thing that the former complained of was acute pain in the back, gradually extending down the thighs, occasioning ere long great torture, and continuing almost till the moment of his death. Dr. Arrowsmith's patient had the same symptoms, complained more of the pain shooting down from the loins to the limbs than of the pain in the belly, and was constantly seeking relief in a fresh change of posture. Mr. Fraser's patient had from an early period a peculiar general numbness, approaching to palsy."

I think there can be no doubt but that the phenomena thus described are those of inflammation of the membranes and substance of the cord. In no post-mortem has the spinal column been opened for examination: and we thus want ocular evidence. But the stiffness of the limbs and the paroxysms of spasmodic dyspnœa point plainly to irritation of the spinal meninges; and the anæsthesia, neuralgia, and loss of power indicate a similar affection of the spinal marrow itself. I once had the painful duty of watching a chronic case of this disease until its termination in death: and the symptoms I then observed come vividly back upon my mind as I cite these descriptions of poisoning by *Oxalic Acid.* I hope that some use may be made of the analogy; hitherto it has remained unfruitful.

*Aconitum napellus* has never, to my knowledge, caused true motor paralysis. It owes its place in this list to its undoubted power of producing anæsthesia. The action on the sensory nerves seems to be direct and primary, for it appears with equal readiness as the result of the local application of the drug. It does not suggest any application of *Aconite* as a paralytic remedy. Dr. Hempel, indeed, is "astonished that an agent which is endowed with the most wonderful specific powers of curing paralysis, should not even be mentioned by our book-makers among the medicines which they recommend for this disease." But the cases he cites in proof of its efficacy are all of congestion of the nervous centres, and the value of the remedy seems therefore due to its well-known control over the circulation.

*Agaricus Muscarius.*—It was always known that this fungus possessed an influence upon the nervous system, as shown especially by its intoxicating properties. But its profound action upon the spinal cord was first revealed by the exhaustive proving conducted by Prof. Zlatarovich. Here are the symptoms obtained by Surgeon Baumgärtner: While taking some of the lower decimal attenuations he had pain between the eighth and ninth dorsal vertebræ, heaviness and languor in the lower extremities, and a sensation of coldness in the glutei muscles. Under large doses of the mother tincture the latter symptoms increased, the gait became unsteady, and formication was felt in the feet. The pain was then felt also in the region of the first and second lumbar vertebræ, and in the sacrum. Next followed paralytic weakness of the sphincter ani and involuntary dribbling of the urine. Three hundred drops caused, among other symptoms, "lassitude and trembling of the lower extremities; coldness and insensibility of the glutei muscles; continual twitching in the small of the back and the lower extremities; sensation as if a cool current of air were passing from the spine over the whole body." The prover experienced a fulness and a sensation of weight, with pressure, in the small of the back, a creaking in the fingers and toes when moving them, with stinging pains in the same, and in the integuments generally. Another prover, after taking ten drops of the mother tincture, was suddenly attacked with a violent stitch in the small of the back, attended with vertigo and nausea, so that he had to vomit; the pain gradually extended along the whole spine, as far as the medulla oblongata. On touching the vertebral column, it was painful in several places. Prof. Zlatarovich himself had "crawling and pricking sensation in the nerves, a feeling of painful tension in the fascia of the thigh, painfulness of the spinal column, drawing and tensive pain in the spinal cord, and occasional fugitive pains in the track of the spinal nerves."

It is strange that such heroic provers do not examine themselves, as they would examine patients under their care, to ascertain the nature of the affection under which they are labouring. From the symptoms recorded it is not easy to diagnose the spinal mischief caused by Agaricus. Some of them, taken together with the general action of the drug, would suggest that congestion is present. But most of them, I think, point to that ill-understood condition known as "irritation:" and we may, perhaps, find in *Agaricus* a useful medicine for the idiopathic disorder. I know of no record of its use in paralysis. I gave it for some time, in increasing doses of the mother tincture, to the only case of locomotor ataxy which has come under my notice; but without result.

*Argentum nitricum.*—Considerable interest attaches itself to this medicine on account of its having been strongly recommended of late in locomotor ataxy. Some cases by Wunderlich and others are cited in the twenty-first volume of this Journal (p. 337), in which there appears no doubt of the nature of the disease, nor of its cure or great mitigation by the use of the *Nitrate of Silver.* Trousseau, however, states that he has been disappointed in it. Dr. Bazire gave it in six cases; a very marked improvement took place in one, and a less marked one in another, but no appreciable result in other instances. Topinard, also, found an entire failure in twelve cases out of seventeen: and in three only of the remaining five was the improvement decided. It is certain, therefore, that *Nitrate of Silver* is no specific remedy against locomotor ataxy as such: though it is probable that there are individual instances of the complaint to which it would prove curative because homœopathic. I do not think that the proving of the salt will enable us to discover what these instances are likely to be. On the contrary, it points to a true paralysis of the legs as the effect of the drug, rather than a disorder of movements with retention of energy. Nearly all the provers felt great debility in the lower extremities: and with Dr. Müller himself the weakness was almost paralytic, and accompanied with emaciation. In simple paraplegia from exhaustion I have more than once found it of signal service, even in the third trituration.

*Arsenicum.*—Paralysis is among the later symptoms of poisoning by *Arsenic.* It is nearly always paraplegic: though a case of Arsenical hemiplegia is related, in which also the laryngoscope detected paralysis of the vocal cord on the affected side.* The arms are affected quite as often as the legs. Cramps and contractions in the paralysed limbs are common: but the most invariable concomitant is neuralgia. This may co-exist with loss of sensibility to everything but cold, by which also the neuralgic pains are brought on or aggravated. The paralysis is most complete in the hands and feet, and spreads, if it do so, peripherocentrad. There is a sense of great restlessness in the limbs when the pains are present.

I cannot identify the form of paralysis to which these symptoms correspond. The neuralgic pains remind of locomotor ataxy, but there is no evidence of loss of coordination being present in the muscular movements. It almost seems as if *Arsenic* affected the nerves themselves rather than the nervous centres; and produced in them, both motor and sensory, its curious mixture of irritation and depression. All that can be said at present is that the existence of neuralgic pain in any case of paralysis should lead us to think of the possibility of *Arsenic* being its specific remedy.

*Belladonna.*—I wish to call particular attention to the paralytic and anæsthetic symptoms produced by this poison, as it seems to me likely to prove the true pathogenetic analogue of locomotor ataxy.

In the twentieth volume of this Journal, I have published a collection of "Cases of Poisoning by *Belladonna,* with Commentaries." In the first of these cases, it is said of the patient "he seemed very giddy, and could not stand. . . He was lifted up, and told to run along, but he again fell, and appeared to have no power of standing." On this the comment is "The loss of standing and walking power observed in this and other cases of *Belladonna* poisoning does not appear to be a true paralysis; it rather seems to depend upon a derangement of the co-ordinating function, which most physiologists assign to the cerebellum." Again, in the tenth case, the reporter himself remarks "It was, however, some days before she was able to walk, even with the assistance of a person on each side of her: this inability to walk did not arise from weakness, but *she appeared to have lost all power of controlling the action of her legs.*" Once more, Pereira notes of seven cases of *Belladonna* poisoning which came under his notice at the London Hospital "In most of the cases, the power of the will over the muscles was so far disordered, that the muscular movements were somewhat irregular, causing a kind of staggering or jerkings."

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* *Med. Times and Gazette,* Jan. 11th, 1862.

But observe further, that *Belladonna* has not only the peculiar pseudo-paralysis of locomotor ataxy, but also nearly all of those apparently incongruous symptoms which characterise the idiopathic disease. No medicine equals it in specific affinity for the eye, where it causes the injected conjunctiva (Cases 2, 4, and 6), the dilated, sometimes varying, pupils (Case 6, *et passim*), the ptosis (Case 4), the diplopia (Case 11), and the amaurosis (Case 1, *et passim*) so often observed in ataxy. Then Lusanna notes that the full effect of *Atropine* is to cause incontinence of urine, and even involuntary fæcal discharges. Anæsthesia, always induced by the local application of the drug, was in Case 4 general over all parts of the trunk and extremities. Dr. Brown-Séquard states that no drug is so powerful a depressant of reflex excitability as *Belladonna.* I know, indeed, of no observations of neuralgic pains having been caused by *Belladonna:* but its well-known power of curing them, in the small doses we use, indicates its homœopathic relationship thereto.

Now consider the pathological basis of the symptoms of locomotor ataxy,—that it is a hyperæmia going on to atrophy: and I think that we shall be induced, in its earlier stages at least, to try *Belladonna* in its treatment with the fairest hopes of success. Remembering, too, that a similar morbid process in other regions of the cord appears to lie at the bottom of glosso-laryngeal paralysis on the one hand, and of wasting palsy on the other, we should think of *Belladonna* when the incipient symptoms of these maladies arrest our attention.

*Conium.*—Our knowledge of the effects of this poison has just received a valuable accession in the experiments of Dr. John Harley, of which an account is given in the number of this Journal for July, 1868. These experiments confirm those of Christison, that *Conium* paralyses the spinal cord from below upwards; killing at last by asphyxia. The state of the sensibility is not mentioned by either: but in Plato's account of the death of Socrates from this poison, it is said that the man who gave it him "having pressed his foot hard, asked if he felt it. He said that he did not." In Dr. Harley's experiments it appears that the third nerve is paralysed (as shown by ptosis, dilated pupils, and slowness of accommodation of vision) simultaneously with the legs.* This is interesting, as bearing upon the similar consentaneousness in the two regions observed in locomotor ataxy. In no other particular, however, do the symptoms of *Conium* poisoning resemble the phenomena of this disease. It would rather be indicated in general spinal paralysis and in that which follows diphtheria. I know of no record of its use hitherto.

*Curare.*—The experiments of Claude Bernard with this Indian arrow poison are well known. A capital account of them is given by Dr. Carfrae in the fourth volume of the *Annals of the British Homœopathic Society.* The conclusions are that *Curare* kills by producing pure paralysis: and that its action in so doing is directly upon the motor nerves and centres, and upon these from the periphery upwards. There is no pain, and no loss of consciousness.

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* In a case of poisoning by *Conium* very accurately observed by Dr. Hughes Bennett, amaurosis also had set in before the paralysis had reached the arms (*Clinical Lectures*, 3rd edit., p. 439).

I am unable to identify this form of paralysis with any of those occurring idiopathically. Mr. Freeman has tried it in several paralytic cases,* and with reported good results. Of the cases cited, the first seems to be a consequence of repeated attacks of "apoplectiform congestion" (according to Trousseau epilepsy). There was double facial and right lateral paralysis: swallowing and articulation also were affected. *Curare* immediately restored the power of swallowing: and the other symptoms steadily subsided. A second case of recovery is briefly described as general motor paralysis. The cases of "lateral paralysis after apoplexy" and of "paralysis after mechanical injury" do not impress me with the power of *Curare.* Far more satisfactory is its action in the semi-paralysis called "nervous debility," and in that which results from over-suckling or from exhausting illnesses. On the whole it is in the last-named conditions that I should expect most benefit from this medicine.

*Gelseminum.*—I must take leave to cite here some of the remarks I have made upon this drug in my *Manual of Pharmacodynamics.*

"The most striking thing about *Gelseminum* is its power of extinguishing muscular activity. Here are the symptoms of a case of accidental poisoning. 'Complete loss of muscular power; was unable to move a limb, or even to raise his eyelids, although he could hear and was cognizant of circumstances transpiring all around him.' I cannot say whether it produces this effect, like *Curare,* through the nerves, or, like the *Upas antiar,* by direct action on the muscular substance. Post-mortem investigations on animals poisoned by the drug can alone solve this question. In the mean time we must use it in this sphere phenomenally only. . . . I should recommend its trial in *local paralysis.* Of this nature are the enuresis of old persons, from the weakness of the sphincter vesicæ, and the post-diphtheritic paralysis of the parts about the throat, both of which have yielded to its use. I should not have supposed that *Gelseminum* had any special action on the sensational centres, but for the fact that blindness is a pathognomonic symptom of its full constitutional action, as much so as salivation is of mercurialization. It has been given with success in the amaurosis caused by *Quinine*. While I am speaking of the eyes, I must notice the very marked disorder of accommodation of vision experienced by the provers.* Whether this depended upon semi-paralysis of the (ciliary) muscles, or upon the cerebral congestion which (as we shall see directly) is caused by the drug, I cannot say. At any rate, *Gelseminum* must be borne in mind in cases of ptosis, diplopia, and strabismus."

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* *Monthly Homœopathic Review,* Sept., 1865.

All this reminds us strikingly of *Conium*, and we should be disposed on the strength of the resemblance to employ it in the same kinds of paralysis—especially the diphtheritic variety—as those to which the former drug seems suitable. But my own experience leads me to the theory of *congestion* as the true explanation, not only of the ocular disorder of *Gelseminum*, but of the general loss of muscular power occasioned by it. I have seen striking results from it in two well-marked cases of spinal congestion. In one there was present also some difficulty in speaking and writing, with loss of the memory of words, *i. e.* incipient aphasia. These have all disappeared, with the pain in the spine, and the weakness of the lower extremities, under the use of the 2nd dil. of *Gelseminum*.

*Kali bromidum.*—I will quote the description of the "*Bromism*" induced by this drug as given by Dr. Victor Bazire in one of the notes to his translation of *Trousseau's Clinical Lectures*.

"The physiological action of the drug evidently ranks it with contro-stimulants, or sedatives, for although it seems to possess a certain amount of alterative power, it is chiefly and pre-eminently a sedative of the nervous system. When given in large doses, such as thirty and forty grains two or three times a day, it produces very striking symptoms in about ten or fifteen days. The patient at first complains of a dull headache, becomes listless and apathetic, with an expressionless gaze and a lustreless eye. His intellect is clouded, his mind confused, and he is unable to concentrate his thoughts. There is slowness of perception, and questions have to be asked several times before their meaning is understood, and an answer can be obtained. If, when these symptoms have begun to show themselves, the medicine be continued, hebetude follows, with inability to think, and a kind of stupor resembling that of the first stage of typhoid fever, together with drowsiness, somnolence, and constant dropping off to sleep. In no case have I yet seen delirium or hallucinations. The pupils are dilated, and contract very sluggishly under the influence of a strong light; the sensibility of the conjunctiva is so deadened that a finger may be passed with impunity on the surface of the eyeball without producing winking. Hearing loses its usual acuteness, and it is only by speaking in a very loud voice that the patient can be aroused from his stupor."

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* One had "diplopia when inclining the head towards the shoulder, diplopia which I could correct by an effort of the will." Another reports "Vertiginous sensation, followed by confused vision, especially of distant objects; the sense of sight is tardy in following the movement, things appearing for several seconds to be blurred, but no sensation of gauze or fibres." (Comp. *Conium*.)

"The sense of taste is probably impaired like those of hearing and of sight. The tongue is moist and red at first, but after a few days it has a tendency to drying and browning. There is anæsthesia of the velum palati, the uvula and upper portion of the pharynx, so that these parts may be tickled without producing nausea or involuntary movements of deglutition. Swallowing itself, however, is impaired, and strangely enough the appetite remains very good; the patient takes his food well, and dozes off immediately after. Digestion seems to be easy, and the bowels, although sluggish in their action, are not very confined. There is intense thirst, and a craving for cold drinks. The anæsthesia is not confined to the mucous membranes only, for the sensibility of the skin is diminished also, so that pinching and pricking are scarcely noticed by the patient. From the beginning, the sexual aptitude fails; erections become rare and imperfect, and cease entirely after a few days.

"Simultaneously with the impairment of sensibility, disorders of motility manifest themselves. Thus, the patient is averse to taking exercise, sits and lounges about; by degrees, his gait becomes altered, he rolls and staggers like a drunken man, his limbs shake and bend under him. After a time, he is obliged to keep to his bed, and when he uses his hands, as in the act of carrying anything to his mouth, they are seen to tremble, as if he were suffering from delirium tremens. The respiration is calm and tranquil, with occasional sighing. The circulation is considerably slackened; the pulse at the wrist is weak and slow; the heart's beat lacking in energy, and its sounds distant and feeble; in fact, in its effect on the heart, bromide of potassium seems to resemble digitalis. If the drug be withheld, these symptoms gradually diminish and pass off of themselves, but they leave behind them for some time afterwards great feebleness, both physical and mental. The anæsthesia of the fauces seems to be the last phenomenon to disappear."

The form of paralysis to which these symptoms best correspond is tabes dorsalis, from sexual excess.

*Mercurius.*—As I have admitted Paralysis Agitans into the list of paralytic disorders, I must include Mercury among my paralytic medicines. The well-known "mercurial tremor" is (as Dr. Rutherford Sanders writes*) "identical with idiopathic paralysis agitans as regards the character of the irregular movements (viz. tremor and jerking), but it is distinguished from it by the exciting cause (mercury)." It hence fulfils the conditions of a homœopathic simile, and I hope will be found useful as a remedy.

Very persistent exposure to mercurial influence will indeed induce a true paralysis. This is always accompanied by serious cerebral disorders,—as headache, loss of memory, sleeplessness, delirium, and epilepsy,—indicative of the softening of the brain which after death is found to have been going on.

*Phosphorus.*—From a paper on "Phosphoric Paralysis" by Dr. Gallavardin of Lyons, translated in the twentieth volume of this Journal, p. 465, I take the following case of paralysis produced by Phosphorus.

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* *System of Medicine*, vol. ii, p. 211.

"A man, æt. 39, who led an ordinary kind of life, occupied himself for three years in the preparation of phosphoric matches. He used to work in the room where he lived, and there he kept the materials and the product of his trade. He had suffered no inconvenience from it until a year ago, when a great quantity of Phosphorus and of phosphorated matches took fire, after a violent explosion. At the time, whilst trying to extinguish it, he so thoroughly respired the vapour of Phosphorus, that at last he fainted from suffocation. Immediately after this, he experienced a sensation of weakness in the back, as if he were ready to sink; then weakness in the extremities, and trembling at every effort; creeping under the skin, and a sensation as if something were starting under the epidermis. At first, great sexual excitement, which afterwards diminished, and for the last six months gave place to impotence; absolute impossibility of erection.

"Independent of that, he found himself well, with good appetite; regular evacuations; good health; normal respiration. Nothing indicated any affection of the brain. On his admission to the hospital, the following symptoms were remarked—his two legs were so weak that he could only walk a few steps, and even that he did with a tottering gait, and as if he was not sure of himself; if he tried to stand upright, his legs trembled and his knees bent; his hands and arms trembled on making an effort. In the state of repose, the muscles started out all over the body, especially in the extremities. *They seemed to be twitching to and fro, though painless; different muscles or bundles of muscles twitched at different periods. At times the twitching stopped, but it was easily excited by contact.* On the left arm, a constant feeling of formication under the skin; normal sensation over the general surface of the body. The spine not sensitive, nor painful, but so weak that the patient cannot straighten himself, nor remain standing when once straightened. The faculties both intellectual and moral, the functions of the heart, of the chest, and of the digestive organs, normal; but the pronunciation embarrassed (? paralysis of the tongue). The patient lived three or four years in the full enjoyment of his senses, whilst the paralysis increased and extended; but all the attempts at treatment were unavailing."

The passages I have italicised in the above are taken from Dr. Hempel's version of the case. If correct, the phenomena are very like the "fibrillary contractions" of Wasting Palsy.

To this capital instance of Phosphoric Paralysis Dr. Gallavardin adds two others; in one of which the left arm, in the other the hands only, were paralysed. He mentions also the experiments on animals of a Dr. Meyer. The conclusions of this observer are "Phosphorus acts specifically on the nerves of voluntary motion, and on the muscles themselves. It impedes, diminishes, and at last entirely destroys the power of movement, or rather it destroys the irritability of the motor nerves, and the contractility of the muscular fibres, and at last completely paralyses the powers." He adds that it also "acts specifically on the nerves of sensation, destroying sensibility from the periphery to the brain, the sensorium being in a small degree disturbed." Among the cases of poisoning given by Dr. Hempel, in one there was numbness of the extremities, with formication,—the fingers having so little sensibility that they could not pick up a pin: in another there was amaurosis with widely dilated pupils, and deafness. When I add to these facts the statement ascribed to Arnold that Phosphorus causes softening of the cord I have said all I know of the pathogenetic influence of the drug in this direction.

But Phosphorus has the additional interest of having, not unfrequently, cured paralysis. Dr. Gallavardin cites twelve cases of this kind, eleven from allopathic sources one from homœopathic. They were nearly all of a "functional" nature,—from amenorrhœa, seminal losses, exhaustion from acute disease, and such like causes. Hemiplegia, paraplegia, and loss of power of the muscles supplied by the third and the sixth nerves respectively, were among the forms assumed. The case by Dr. Trinks in the nineteenth volume of this Journal is not in Dr. Gallavardin's collection; and is so ably reported that I cannot resist reproducing it here.

"Mr. Pellman, master tiler at Dösen, in the territory of Planen, æt. 46, strongly built and of a good constitution, was often treated by me for rheumatic and gastric symptoms, and at last, in the spring of 1857, for inflammatory pains in the left lobe of the liver, which had remained, with simple hypertrophy, after six weeks of allopathic treatment. By the use of homœopathic medicines these sufferings were very quickly removed. In the autumn of the same year he is said, on the report of his medical attendant, to have been attacked with an affection of the spinal cord, which, however, also disappeared in a few weeks. In September, 1858, he fell ill, after a previous chill and, probably, errors in diet, of diarrhœa, with vomiting, followed by catarrhus gastro-intestinalis, with a (secondary) affection of the brain, probably of a typhoid character. In the beginning of October these affections of the mucous membrane of the alimentary canal were removed, the head was free again; but an affection of the spinal cord had developed itself, which, when I visited him for the first time, had taken the following form:—

"The brain was perfectly free, mental power unimpaired, no vertigo, no weight or confusion of the head, no headache; the organs of sense intact. In the whole length of the spine, from the cervical vertebræ down to the sacrum, there was no pain present, even from strong pressure on each individual vertebra; no disease of the substance of any vertebra; no pain in the medulla itself, neither heat nor cold nor any formication. On the other hand, all feeling was annihilated in the upper extremities as far as the elbows, and in the lower up to the glutei, and this took place progressively, first in the tips of the fingers and toes, then in the hands and soles of the feet, and so on. Complete anæsthesia of the nerves of feeling had set in. At the same time, the capacity for movement was lost; he could just grasp large objects with his fingers; but could not hold them fast. He could just sit on the bed or a chair; but on attempting to stand his knees bent under him, and he had to be held upright. Walking, or stepping out with his feet, was quite impossible. In sitting, he could still move them a little, but could not keep them stretched out. The muscles of all the extremities had become flaccid, losing all firmness and tone; they were atrophied. The temperature of the limbs was that of the whole body, and not altered. The appetite was strong, the digestion unimpaired; stools occurred but seldom, and never without the aid of cold water injections; urine bright and clear, with no strange smell, and acid, but passed very often because the sphincter of the bladder had lost its energy. He was obliged, especially at night, to satisfy the desire of urinating promptly, or else the water would pass from him involuntarily; excepting this interruption, his sleep was quiet. The above-mentioned physician had pronounced this to be a case of tabes dorsalis, and had employed internally extr. spir. *Nux vom.*, partly alone and partly in conjunction with extr. *Gentian* and *Sulph. Chinin.* and *Pulv. fol.*, *Rhus tox.;* externally, rubbing with *Ung. nervin.*, *Veratrin*, *Spir. serpylli*, and *Cantharides;* also prescribing strong beer and strong red wine; and as no improvement was observed from the use of urtication he had spoken of electricity as a means which yet might be of some use in this case.

"As causes of this affection of the medulla spinalis, neither excesses *in venero et baccho,* nor any other injurious tendencies could be discovered to have acted directly upon it. Taking cold and errors of diet may surely have excited the catarrh, but could hardly have caused such a severe disease as that before us. Scarcely either can the previous catarrh, unless there had been a typhoid process, have produced an indirect *causation.* There could only be ascribed to it, at most, an indirect *influence;* for I have often had an opportunity of observing that, after disturbance of the abdominal functions (with or without fever), and also after typhus, affections of the spinal cord develop themselves in a way that could not have been conjectured. No inflammatory ailment either of the medulla, or of its membranous sheath, had preceded, for the patient had never either before or during his illness perceived any pain of the vertebral column. The assumption of an exudation, which might have excited a pressure on the medulla, is quite devoid of probability. Just as little could the cause of this disease be suspected in the brain, as its functions with those of the organs of the special senses had suffered no disturbance. No disease of the bony substance of the individual vertebræ could be discovered along the whole column. I incline to the opinion of the previous medical attendant, and believe that, from the typhoid process that probably preceded, an atrophic condition had been induced in the substance of the medulla. In this case, also, the prognosis was necessarily very unfavourable. Although the disease was not inveterate, yet in a very short time it had extended itself greatly. In consideration that already several medicines had been employed by the former physician, which have a very powerful specific action on the spinal cord—such as *Nux Vom.*, *Chinin. Sulph.*, *Rhus tox.*, *Veratrum*, &c.—and that these were administered in very strong doses throughout a long period, it was necessary to introduce a medicine which should have an equally direct, but, if possible, more intense and energetic action than the above. On these grounds, considering the direct action of *Phosphorus* on the whole of the spinal cord (as had also been observed in diseases of this organ by Drs. Löbenstein, Löbel, Le Roi, Wechard, Gumprecht, Robbi, &c.), I decided on employing that medicine: and the choice was so happy that *Phosphorus* alone effected the cure within two months and a half. The patient at first took three drops of the 2nd dec. dilution night and morning for the first and second months, and as by that time the amendment had proceeded so far that he only felt a weakness in the knees after a long walk, he commenced taking three drops in the evening only.

"The disease retreated exactly in the same way as it had advanced; at first, sensation returned gradually in the upper and lower extremities, the strength and moving power of the muscles were confirmed again, and they soon attained their natural bulk, tone, and firmness. The patient has continued quite well since that time, attends to his business without overstraining, and can walk very far and very long without more weariness than every healthy person feels who has taken a very long walk.

"Also, during this tolerably long use of *Phosphorus*, I could detect neither any aggravations of the sufferings, nor any of the peculiar effects of *Phosphorus* in any other organ."

There is, moreover, a case of "painful paralysis of the arm" (Qy.? rheumatic) cured by *Phosphorus* in vol. xxii. of this Journal, p. 565.

*Plumbum.*—Paralysis is a not uncommon symptom of "secondary saturnine intoxication." Its most familiar form is that of "wrist-drop," *i. e.* loss of power of the extensors of the hands. But while much more frequently occurring in the upper than in the lower extremities, yet it every now and then invades the latter. Lead paralysis is rarely accompanied with anæsthesia, though lead anæsthesia as an independent affection is common enough. The paralysis is preceded often by a trembling (tremblottement saturnine) of the affected muscles, sometimes by spasms and shooting or tearing pains. There is always marked atrophy of the affected muscles; and sometimes this condition becomes general, so that the patient resembles a walking skeleton. The muscles, when examined post-mortem, are found wasted and very pale, and have sometimes the appearance of white fibrous tissue.

It is impossible not to be reminded here of the disease we have described as wasting palsy. The local selection, the predominant atrophy, the presence of trembling (fibrillary contractions) and absence of anæsthesia correspond in the two. Trousseau admits that the differential diagnosis is attended with difficulty: and can only adduce by way of distinction the different behaviour of the muscles when submitted to the electric stimulus, and the history of the evolution of the symptoms. To the former I can attach no real importance, and as to the latter, M. Trousseau is inconsistent with himself. "In the lead-disease," he says, "palsy precedes atrophy," leaving it to be understood that in wasting palsy atrophy precedes loss of power. But he himself had already made the following remark on the case which gave rise to his clinical lecture. "You may remember that Dr. Duchenne himself, who honoured us with his presence during our round, had shown that most of the muscles of the arm and fore-arm still contracted under the influence of electricity, whilst the patient could not voluntarily move his hands or his fore-arms. One could not but suppose, therefore, that previous to any anatomical change which seemed not to exist then, the peripheral extremities of the nerves had undergone a modification, in consequence of which they had lost the power of rousing muscular contraction. *A loss of excitability of the peripheral extremities of nerves would therefore precede the degeneration of the muscular fibres,* a fact perfectly in accordance with pathological physiology."

I would strongly recommend the trial of *Plumbum* in the first case of wasting palsy which comes under notice.

*Secale cornutum.*—The paralysis produced by *Ergot of rye* is generally accompanied with tonic contractions of the muscles. Formication, prickling, and sensation in the extremities as if they were asleep, are also observed, and sometimes anæsthesia. That all these symptoms result from an affection of the spinal cord is pretty obvious, not only from their own character, but from the pain often experienced in the spine. But the only experiments with which I am acquainted where this organ was examined after death by *Secale* are those on frogs by Gaspard (see Dr. Buchner's article, translated in Appendix to *Brit. Journ. of Hom.*, vol. iv). The symptoms during life were those of "weakness, and even paralysis of the hind-legs, with a state of intoxication or stupefaction." The following are the notes of the post-mortem appearances in several parts of the nervous centres. "Although much blood was lost in cutting through the spinal cord, all the vessels were full of blood." "The brain and spinal cord were softened, and their envelopes injected. The substance of the spinal column was infiltrated with blood." "The brain was much softened, and the substance of the spinal cord much injected." "Brain and spinal cord softened, and the substance of the vertebræ injected."

There seems no difficulty now in explaining the beneficial action in myelitis ascribed by Dr. Brown-Sequard and others to *Sécale.* In paraplegia from this cause, and from simple softening of the cord, it ought to be a very efficient remedy.*

We have now gone through the principal medicines which on undoubted evidence cause the paralytic state. It becomes rather curious to notice that hardly any of these have been used among homœopaths for its cure. The experience gained with *Argentum nitricum,* with *Phosphorus,* and with *Secale* has been mainly allopathic : while Rückert's cases show a preponderance of very different medicines in homœopathic hands. From this and other sources I gather that our most frequently used anti-paralytics are *Causticum, Cocculus, Nux vomica,* and *Rhus.* Then, in a second rank, come *Arnica, Baryta carbonica, Belladonna, Silicea,* and *Sulphur.* I will say a few words upon each of these.

*Causticum* is a medicine whose nature and modus operandi are involved in a good deal of mystery. Its pathogenesis has some paralytic symptoms, but none of any very striking character. It is credited in Rückert with the cure of three cases,—one of general paralysis "after suppression of the itch," another of paralysis of the tongue and right arm "after retrocession of a catarrh," and a third of facial paralysis. The evidence of "cure" is very meagre, and I feel little disposed to rely upon it.

*Cocculus* has more decided paralytic symptoms in its pathogenesis; and its poisonous effect reveals an unquestionable action upon the motor nervous centres. I can quite believe, therefore, in its reported value in hemiplegia after apoplexy. The paraplegia in which it is useful is not distinctly characterised in the records. Dr. Trinks made a very pretty cure of long-standing diphtheritic paralysis with it (see 'Brit. Journ. of Hom.,' vol. xix, p. 312).

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* More recently paralysis has been observed in India as the result of living upon bread made from the flour of the *Lathyrus sativus.* There is an account of this disorder in Aitken's *Science and Practice of Medicine,* vol. i. It comes on rather suddenly—"Men who had gone to bed quite well awake in the morning feeling the legs stiff, especially at the knees, their loins weak, and their gait unsteady. Fever does not seem to attend the accession of the more obvious phenomena, but pain gets worse, and eventually the lower limbs become quite paralysed. The patient walks with difficulty, the toes turn inwards, the legs waste, and the great toe-nail scrapes the ground, till, in persons who go barefooted, the nail has been known to get rubbed down to the quick. . . We have no record of the state of the spinal marrow in such cases."

*Nux vomica* would appear at first sight so utterly antipathic to paralysis, that its use therein by homœopaths would be a palpable inconsistency. But it is not quite so. *Nux* undoubtedly causes acute congestion of the nervous centres, and has been known to set up a hyperæmic softening of the brain and cord. It becomes, therefore, a chief remedy for apoplectic paralysis, and should be carefully tried in that from softening in sanguine and inflammatory subjects. The cases given in Rückert are not obviously of this or indeed of any other character.

*Rhus* I had almost put down among the medicines which cause paralysis. It has indeed a considerable number of "paralytic" pains and weaknesses; but these are after all too vague for any reliance to be placed upon them. Its earliest reputation was gained as a paralytic medicine, in the hands of Dufresnoy and Alderson. The only variety of the disease specified is "painless paralysis of the feet:" in one patient the hands also had become powerless. I cannot identify this paralysis with any of those I have characterised. One would expect that *Rhus* would be especially suitable for the rheumatic variety: and so indeed it is. This form often arises from exposure of the back or seat to damp cold. Dr. Carroll Dunham suggests that the paraplegia occurring in young children results from this cause; and states that it readily yields to *Rhus* and an occasional dose of *Sulphur*.

*Arnica* is obviously indicated in paralysis after concussion, and may help absorption when it results from hæmorrhage.

*Baryta carbonica* is of undoubted value in apoplectic paralysis, especially in aged persons.

*Silicea* has probably some power over the nutrition of the nervous centres, and has proved curative in some cases of epilepsy and paraplegia. Dr. Black thinks it the best medicine in tabes dorsalis.

*Sulphur* seems likely to be of use in rheumatic paralysis.

I will now sum up the medicines indicated for the several varieties of paralysis I have described, and add a few remarks upon non-medicinal auxiliaries.

In paralysis from congestion of the cord, *Gelseminum* is likely to be the best remedy ; after this, *Agaricus.*

Where the membranes and the substance of the cord are inflamed, *Oxalic acid* is indicated : where the substance only is involved, *Secale* and *Belladonna.*

In softening of the cord, if inflammatory, I should try *Secale ;* if atrophic, *Mercurius* or *Phosphorus. Phosphorus* or *Plumbum* for atrophic induration.

The absorption of the effusion in spinal hæmorrhage may perhaps be helped by *Arnica :* and the same medicine, with *Hypericum,* may remove the effects of concussion.

*Silicea* and *Cocculus* have in my hands proved of some service in improving the paraplegia attendant upon angular curvature of the spine.

To aid recovery from hemiplegia subsequent to cerebral hæmorrhage most benefit may be expected from *Nux vomica, Cocculus, Baryta carbonica,* and *Arnica.*

For softening of the brain, when inflammatory, we should think of *Belladonna, Nux vomica,* and *Mercurius ;* when atrophic, from arterial degeneration, of *Phosphorus* and *Phosphoric acid.*

Tabes dorsalis is likely to be most benefited by *Phosphorus, Kali bromidum,* and *Argentum nitricum.*

General paralysis of the insane will probably best be treated as a chronic meningitis, *e.g.*, by *Mercurius Corrosivus.*

General spinal paralysis calls for *Conium* and *Phosphorus.*

For hysterical paralysis I know of no specific remedy, unless it be associated with spinal irritation, when *Agaricus* might help.

If Dr. Radcliffe is right in believing infantile paralysis to be dependent on spinal congestion, *Gelseminum* is indicated. Otherwise (especially when it supervenes upon a convulsion) I should try *Curare.*

Paralysis agitans, if curable at all, ought to be so by *Mercurius.*

In reflex paralysis, the treatment must obviously be directed to the organ primarily at fault.

Diphtheritic paralysis calls for *Conium*, *Gelseminum*, and *Curare.*

As to the treatment of syphilitic paralysis I have nothing to add to the recommendations usually given. *Mercury*, if not previously abused, and *Iodide of potassium*, are with us as with our brethren of the old school, the specific remedies for most of the manifestations of this taint.

Rheumatic paralysis will probably find its best remedies in *Rhus* and *Sulphur.*

Facial paralysis is said to be ordinarily curable by *Causticum.*

Glosso-laryngeal paralysis, if curable at all, will be so by the remedies for the central hyperæmia with atrophy on which it depends. Of these *Belladonna* promises most.

The same must be said of locomotor ataxy. But I should draw a bow at a venture, and prescribe *Arsenicum*, either instead of or alternately with the *Belladonna*, if the neuralgic pain were the predominating symptom.

*Belladonna* should also, I think, be prescribed in wasting palsy, as it is possible that a central lesion is present here. But it should be alternated with medicines capable of causing similar changes in the muscles themselves. The only known ones are *Phosphorus* and *Plumbum.* The former would be indicated where the muscles undergo fatty degeneration, without much change in bulk: the latter where they simply waste away.*

And now a word in conclusion about non-medicinal aids in the treatment of paralysis.

*Electricity* is an agent whose therapeutic applications are by no means yet developed or determined. It can only as yet be positively recommended in hysterical and facial paralysis, and to keep the muscles in exercise in post-apoplectic hemiplegia, in infantile paralysis, and in wasting palsy. The current (induced) should be applied to the individual muscles themselves in all but hysterical paralysis, in which latter Faradization of the skin seems of most service.

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* Since penning the previous remarks upon the analogy between lead-palsy and muscular atrophy, I have come upon some experiments on rabbits in the *North Amer. Journ. of Hom.* for August, which go far to confirm the conclusions I have drawn. Tanquerel also is quoted as stating that in lead-palsy "he was frequently astonished to find that muscles were paralysed whose nerve supplied also others which were not paralysed."

*Gymnastic movements.*—It would be of benefit to all of us if Dr. Roth would tell us as a sequel to his remarks in vol. xvii of this Journal, in what forms of paralysis the Swedish exercises are useful, and to what extent they help.

*Rubbing,* as practised by the professional rubbers, seems of some service: and is at any rate a sort of passive exercise for the weakened limbs.

## REPORT OF THE HOMŒOPATHIC HOSPITAL OF LEOPOLDSTADT IN VIENNA, FOR THE YEAR 1867.

By Dr. M. Eidherr, Physician to the Hospital.*

| DISEASES. | Admitted. | Dismissed. | | | | Remaining. |
|---|---|---|---|---|---|---|
| | | Cured. | Improved. | Transferred. | Died. | |
| *General Diseases—* | | | | | | |
| Anæmia | 3 | 2 | 1 | — | — | — |
| Apoplexia | 4 | — | 2 | — | 2 | — |
| Congestio | 4 | 4 | — | — | — | — |
| Intermittens | 8 | 8 | — | — | — | — |
| Cachexia post-febrem intermit. | 1 | 1 | — | — | — | — |
| Rheumatismus acutus | 94 | 90 | — | — | — | 4 |
| subacutus | 21 | 18 | — | — | — | 3 |
| chronicus | 13 | 12 | — | — | — | 1 |
| Scorbutus | 2 | — | — | — | 1 | 1 |
| Scrophulosis | 2 | — | 1 | — | — | 1 |
| Typhus | 58 | 47 | — | — | 6 | 5 |
| Intoxicatio cum acid. sulph. | 1 | — | — | — | 1 | — |
| *Diseases of the Nerves—* | | | | | | |
| Cardialgia | 13 | 12 | — | — | — | 1 |
| Hemicrania | 10 | 10 | — | — | — | — |
| Hysteria | 4 | — | 4 | — | — | — |
| Melancholia | 1 | — | — | 1 | — | — |
| Meningitis | 3 | 1 | — | — | 2 | — |
| Neuralgia nervi trigemini | 3 | 3 | — | — | — | — |

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* From the *Allg. Hom. Zeitung*.

| DISEASES. | Ad-mitted. | DISMISSED. | | | | Re-maining. |
|---|---|---|---|---|---|---|
| | | Cured. | Im-proved. | Trans-ferred. | Died. | |
| *Of the Ear—* | | | | | | |
| Otitis | 1 | 1 | — | — | — | — |
| *Of the Eye—* | | | | | | |
| Conjunctivitis | 4 | 3 | — | — | — | 1 |
| *Of the Mouth and Throat—* | | | | | | |
| Odontalgia | 2 | 2 | — | — | — | — |
| Parulis | 11 | 10 | — | — | — | 1 |
| Angina | 27 | 27 | — | — | — | — |
| *Of the Heart* | | | | | | |
| Insuff. valv. bicuspidalis | 6 | — | 6 | — | — | — |
| Stenosis aortæ | 2 | — | 2 | — | — | — |
| *Of the Respiratory Organs—* | | | | | | |
| Catarrhus laryngealis | 2 | 2 | — | — | — | — |
| pulmonalis | 28 | 28 | — | — | — | — |
| Bronchitis | 21 | 21 | — | — | — | — |
| Exsudatum pleuriticum | 2 | 2 | — | — | — | — |
| Pleuritis | 12 | 10 | — | — | 1 | 1 |
| Laryngitis | 5 | 5 | — | — | — | — |
| Pneumonia | 22 | 21 | — | — | 1 | — |
| Tuberculosis | 22 | — | 13 | — | 8 | 1 |
| *Of the Digestive Organs—* | | | | | | |
| Carcinoma ventriculi | 1 | — | — | — | — | 1 |
| Catarrhus gastro-intestinalis | 107 | 104 | — | — | — | 3 |
| Dysenteria | 4 | 4 | — | — | — | — |
| Ulcus ventriculi perforans | 1 | — | — | — | 1 | — |
| Vomitus cruentus | 3 | 2 | — | — | — | 1 |
| *Of the Glands—* | | | | | | |
| Lymphangoitis | 1 | 1 | — | — | — | — |
| Mastitis | 2 | 1 | — | — | — | 1 |
| Parotitis | 1 | 1 | — | — | — | — |
| *Of the Liver—* | | | | | | |
| Atrophia hepatis acuta | 2 | — | — | — | 2 | — |
| Cirrhosis hepatis | 1 | — | — | — | 1 | — |
| Icterus | 5 | 5 | — | — | — | — |
| *Of the Peritoneum—* | | | | | | |
| Peritonitis | 31 | 28 | — | — | 2 | 1 |
| *Of the Kidneys—* | | | | | | |
| Albuminuria | 1 | 1 | — | — | — | — |
| Morbus Brightii | 2 | — | 1 | — | — | 1 |
| *Of the Female Sexual Organs—* | | | | | | |
| Amenorrhœa | 1 | 1 | — | — | — | — |
| Chlorosis | 25 | 24 | — | — | — | 1 |
| Colica menstrualis | 6 | 6 | — | — | — | — |

| DISEASES. | Ad-mitted. | DISMISSED. | | | | Re-maining. |
|---|---|---|---|---|---|---|
| | | Cured. | Im-proved. | Trans-ferred. | Died. | |
| *Of the Female Sexual Organs—* | | | | | | |
| Cystovarium | 1 | — | — | — | — | 1 |
| Dysmenorrhœa | 10 | 9 | — | — | — | 1 |
| Metrocarcinoma | 1 | — | 1 | — | — | — |
| Metrorrhagia | 7 | 7 | — | — | — | — |
| *Of the Joints and Periosteum—* | | | | | | |
| Coxitis | 2 | 1 | 1 | — | — | — |
| Luxatio humeri | 1 | 1 | — | — | — | — |
| Periostitis | 2 | 1 | — | — | — | 1 |
| *Of the Skin—* | | | | | | |
| Detritus | 3 | 3 | — | — | — | — |
| Eczema | 8 | 3 | 5 | — | — | — |
| Erysipelas | 14 | 13 | — | — | — | 1 |
| Morbilli | 1 | 1 | — | — | — | — |
| Panaritium | 11 | 10 | — | — | — | 1 |
| Perniones | 3 | 3 | — | — | — | — |
| Phlegmon | 24 | 22 | — | — | — | 2 |
| Scarlatina | 1 | 1 | — | — | — | — |
| Ulcera | 7 | 7 | — | — | — | — |
| Variola | 8 | — | — | — | — | — |
| *Burns—* | | | | | | |
| Combustio | 2 | 2 | — | — | — | — |
| *Injuries—* | | | | | | |
| Contusio | 4 | 4 | — | — | — | — |
| Vulnera | 7 | 5 | — | — | — | 2 |
| Total | 723 | 611 | 37 | 9 | 28 | 38 |

## I. GENERAL PART.

THE above table shows that from Jan. 1 to Dec. 31, 1867, 723 patients came under treatment.

| | |
|---|---|
| Of these were cured | 611 |
| improved | 37 |
| transferred | 9 |
| died | 28 |
| remain | 38 |

As regards comparative frequency, we find

| | |
|---|---|
| Rheumatism | 128 |
| Catarrh of stomach | 107 |

| | |
|---|---|
| Typhus | 58 |
| Peritonitis | 31 |
| Cynanche tonsillaris | 27 |
| Inflammation of cellular tissue | 24 |
| Pneumonia | 22 |
| Tuberculosis | 22 |

The proportion of cures to admissions, omitting the cases that remained in hospital or were transferred, was 612 to 677 = 90·4 per cent., and that of the deaths to the dismissals 28 to 650 = 4·3 per cent.

If we exclude the fatal cases from diseases for which the art of medicine has hitherto found no remedy, and which, in the present state of our knowledge, are generally allowed to be incurable, such as tuberculosis, perforating ulcer of the stomach, acute atrophy of the liver, cancer of the liver, &c., then the proportion of deaths to dismissals is 16 to 650 = 2·5 per cent., and to the total admissions omitting these maladies 16 to 702 = 2·2 per cent.

Tuberculosis alone furnished 28·9 per cent. of the whole mortality. The cases of tuberculosis improved bore to the fatal cases the proportion of 8 to 13 = 61·1 per cent.

| | | | |
|---|---|---|---|
| The mortality in typhus was | 6 to 58 = | 10·3 | per cent. |
| pneumonia | 1 to 22 = | 4·5 | „ |
| peritonitis | 2 to 31 = | 6·4 | „ |

## II. SPECIAL PART.

### 1. GENERAL DISEASES.

*Anæmia.*—In two cases it was the consequence of frequent profuse metrorrhagia. They both recovered perfectly after *China,* and the first case had besides to complete the cure *Ferr. met.* 6. The third case was produced by long-continued ague combined with insufficient food. The patient, a woman of 50, when admitted was dropsical. For four months, with but short intervals, she had suffered constantly from ague, which together with the dropsical swellings, weakened her much and rendered her incapable of working. She had never been under regular medical treatment, and in this illness she had taken only a few domestic remedies.

She was weak, much aged, the lower extremities were swollen throughout their whole extent, the upper extremities were only swelled as far as the wrists. On the trunk the swelling extended up to the gastric region. Respiration was short and laboured. Examination showed the lungs free from disease. The heart was normal as to position and size, its impulse increased, and auscultation revealed no abnormality besides blood murmur, which extended up into the jugular veins. Pulse small, easily compressible, 88. Spleen enormously swollen, its lower edge, when she lay down, reached as far as the upper border of the ilium. On tracing the lower edge of the spleen inwards it was found to reach as far as the linea alba, and a finger's breadth below the navel. The inner edge described a curve extending upwards and inwards to the left false ribs. The gastric region was swollen. The liver too projected an inch beyond the costal arch. Firm pressure on it caused some pain. No water was detectable in the abdominal cavity. No fits of ague were observed in the hospital: The patient had an appetite there was hardly any satisfying, moderate thirst; she felt much prostrated and complained of sleeplessness.

The enormous swelling of the spleen testified to the previous existence of ague. This, coupled with the insufficient nutriment of the patient, caused a high degree of poverty of blood, observable not only in the external appearance of the patient, but also in the loud blood murmurs, so well-marked in patients deficient in blood. I ordered the patient a generous diet, and prescribed *China* 6, a drop every two hours. Good food, pure air, and *China*, caused a rapid subsidence of the dropsical symptoms. Sleep was restored but gradually. When the patient, after a three weeks' sojourn in the hospital, quitted it though not quite cured (she considered herself quite well, and no persuasion could induce her to remain till the cure was complete, as she insisted that she must go and earn her children's bread), the dropsy was gone, her appearance was improved, and the spleen had receded two fingers' breadth; the liver also scarcely projected beyond the ribs. I regretted that she would not remain longer in the hospital, as I became much interested in the progress of the case.

*Apoplexy.*—Four cases came under treatment. In two of them death speedily ensued. In the other two recovery slowly took place. *Arnica, Causticum* and *Cocculus* were the remedies used.

*Congestion.*—All the cases showed themselves as rush of blood to the head in young robust girls. In two cases, in which in addition to the pressing aching headache, there were pulsation of the carotids, sparkling eyes, turgor of the skin, and very rapid pulse (112—128), restlessness and sleeplessness, I gave *Gelseminum nitidum* in the 6th dec. with success. In the third case, where the symptoms pointed to a simultaneous affection of the meninges, *Apis* 6 was of great benefit.

*Intermittent fever* and *ague cachexy.* The types were: quotidians 2, tertians 5, irregular 1. The quotidians and tertians offered nothing remarkable. But the irregular intermittent ran a peculiar course. It had been present for five weeks. The first fit occurred at night without previous indisposition, and lasted without interruption until the third morning, seven o'clock, therefore about thirty-seven hours. Heat, headache, and quick pulse ceased suddenly. All day long the patient felt well and enjoyed good appetite. At 6 p.m. came on another fit which equalled the first in violence and duration. The subsequent attacks became gradually shorter and less violent; but no real intervals occurred, and such as there were were troubled with the symptoms of a marked febrile gastricismus, so that it was a question whether this was merely a case of gastricismus, low typhus, or ague.

On admission the patient presented the aspect of a well-built muscular young girl. The colour of the skin of the whole body was dirty yellow, and the expression was that of weariness. The tongue was moderately moist and thickly furred. The respirations were 24, the pulse 112 per minute.

The heart's action was agitated, the spleen extended somewhat beyond the edge of the ribs. Slight œdema of the ankles. She also complained of great aching in the temples, much heat and thirst.

I gave *China.*

The next day she lay in bed quite free from pain. She complained of weariness, weight on the chest and dry short cough. That evening and next day no fever occurred; but bronchitis came on. I prescribed *Phosphorus.* For six days there was no trace of intermittent fever to be detected. The gastric symptoms continued. With the decline of the bronchitis the most marked febrile paroxsyms returned. Only the apyrexia betwixt the fits was more complete, and was of uncertain duration. *Nux vom.* 2 caused them to disappear in six days. From this time the patient improved perceptibly, the gastric symptoms disappeared, and after remaining a fortnight free from the attacks the patient recovered her former blooming appearance, the spleen also diminished to its normal size. She could then be dismissed cured.

*Rheumatism.*—As will be seen in the foregoing list most of the cases were acute. It was seldom the disease was limited to a single joint. The ankle and knee were most frequently attacked. Next in frequency was the wrist, more rarely the elbow and shoulder. In only two cases was there concomitant heart affection; in one of these it was pericarditis, in the other endocarditis: symptoms of considerable anæmia were present in seven cases. There were no fatal cases.

The treatment was limited to *Acid benzoic.*, *Antim. tart.*, *Bryonia*, *Colchicum*, *Ledum*, *Ranunculus bulbosus*, *Pulsatilla*, *Silicea* and *Sulphur.* For the concomitant affections *China*, *Ferr. met.*, *Phosph.*, and *Spigelia* were also used. Trials were also made of several newly proved medicines, which the Vienna Homœopathic Society had obtained from the Leipzig Central Laboratory in 1868. I shall on a future occasion give an account of them.

The following case is interesting on account of its peculiar course and combinations.

A pale, blonde, delicate girl of twenty, was seized with rheumatic pains in the joints at the beginning of May, after getting her feet wet. They first attacked her ankles, which became pale red and swollen; on the fourth day they went into her right knee, and on the fifth day into her left elbow, which also became painful, swollen, and slightly red. The digestive organs suffered sympathetically, the motions were loose, two or three a day. Catamenia but scanty. Pulse small, easily compressed, 94. The other organs showed nothing abnormal. I prescribed *Pulsatilla.*

Until the seventh day of her sojourn in the hospital, and the eleventh of her seizure, the disease declined with the usual symptoms to such an extent, that the patient who could now use her limbs only complained of a dull pain with occasional sharp shoots along the anterior edge of the right tibia, worse when moving in bed and when stepping. On passing the finger down the bone a slight swelling was perceptible and pressure occasioned an increase of the pain. These phenomena pointed to periostitis, and from this time I ordered *Silicea* 6. After a further period of about three weeks the periostitis had considerably diminished, and the patient looked forward to her speedy cure, when suddenly painful swelling again came on in precisely the same joints, with fever, anorexia, and disturbed sleep, when the pain and swelling of the right tibia as rapidly went away. I now prescribed *Bryonia.*

The following day both wrists were also affected, the slightest movement, even the walking of any one across her room, increased the agonising pains. The pulse was fuller, 124; the respiration hurried, short, gasping, and caused stitches in the cardiac region and left side of the thorax, which were aggravated by any inspiration. Pericardial rubbing sound was audible in the cardiac region.

Next day the patient's state remained unaltered. Percussion, however, showed a greater extent of dull sound in the cardiac region and left side of the thorax, exteriorly and posteriorly; the pericardial rubbing sound was scarcely audible; the heart's beat was weaker to the feeling, and the heart's sounds less distinct. On the left side of the chest exteriorly and posteriorly the respiratory murmur was less perceptible.

The exudation in the pericardium and left pleuritic cavity attained a great height; the latter could be detected as far as the upper third of the scapula; the patient showed much dyspnœa and was in dread of suffocating. The pulse was small, threadlike, the eyes projected out of their orbits, the look was staring, the lips blue, the nails and tips of the fingers bluish grey and cold. The skin of the body was covered with cold clammy perspiration and had a greyish hue. The patient could maintain a half recumbent position for any length of time. Pain and swelling in the affected joints remained as before. I prescribed *Calc. carb.* 30.

The next and third day the patient hovered betwixt life and death. On the fourth day there came on such profuse warm perspiration as to wet the bed-clothes through and through, and the patient was relieved.

From this time forward the improvement went on rapidly. Finally I gave the patient *Sulph.* 6 with a view to promote the absorption of the exudation. After a sojourn of near two months she left the hospital quite well.

There were two cases of *scorbutus.* One was a very advanced case, and was almost moribund when brought in. The patient was a woman of seventy, who had had a hard struggle with proverty, insufficient food and unwholesome medicine. In the second case the scorbutus was limited to the groins and yielded to *Carb. veg.*

*Typhus* generally occurred in a mild form. Marked cerebral symptoms were observed in the minority of cases, whilst the abdominal symptoms were decidedly prominent. Diarrhœa was present in almost every case. Decubitus only occurred in the worst cases. Several of the patients had the exanthema; but this was limited to a few papulæ. In one case only the front of the chest and the abdomen were sprinkled over with it.

In only three cases was pneumonia observed.

Profuse metrorrhagia occurred in two cases which ended fatally.

Hæmorrhage from the bowels likewise occurred.

Miscarriage took place in one case, but it did not happen in three other pregnant patients.

In one case only was there inflammation of the parotid gland.

As regards treatment, *Acid phos.* was the chief remedy. Some patients were treated with this remedy alone.

Next to this was *Arsenic,* which was especially employed where there was hæmorrhage from the bowels.

*Calc. carb., Rhus, Bryonia, Pulsatilla,* and *Chelidonium* were less frequently employed.

When miscarriage threatened I employed *Sabina* and *Secale* with advantage.

## 2. Diseases of the Nerves.

*Cardialgia* occurred sometimes in the *acute,* sometimes in the chronic form, and these forms were either (in the minority of the cases) idiopathic, or (in the majority) accompaniments of other diseases. Thus, three cases were combined with marked chlorosis, four with menstrual derangements. In one it accompanied a severe hysteria.

As the cases varied so did also the remedies. In chlorosis and other menstrual disturbances I gave *Cocculus, Chamomilla, Ferr. met., Nux vom., Pulsatilla* and *Secale.*

In the case attended with hysteria, *Atropin* 4, three doses daily for six days, caused a complete cessation of the attacks of cardialgia. In another case where the patient according to her own admission practised masturbation every night, the violent cardialgic attacks which for three months had come on every evening at sunset were cured by *China* 2. The other effects of excessive masturbation, such as great debility, especially ready fatigue from walking, trembling of the legs, beaten feeling in the thighs, tiresome pressure in the loins and loss of appetite, particularly *disgust at meat and sauces,* went off after a prolonged use of *Phos.* 30.

*Hemicrania* always occurred either in delicate, irritable subjects, or in such as lived almost entirely on coffee. Thus a working woman came under treatment whose breakfast consisted of coffee, dinner chiefly of coffee, and supper also of coffee. The attacks always came on on awaking. On first awaking she felt her head heavy and had no inclination to get up (those days when she had no attack she had no inclination to lie in bed). Soon afterwards pains shot like lightning through her temples (chiefly the right), attended by a squeezing tearing pain in the same spot. Bright light, noises, music, &c., increased it. When the attack attained its height (in four to six hours) there occurred first retching for from fifteen to twenty minutes, and then such violent vomiting that the patient felt as if her inside would come up. On the occurrence of this vomiting, the intensity of the pains subsided rapidly, whereupon she fell asleep and woke up several hours afterwards, tired but free from pain. *Morphine*, *Castoreum*, and *Aq. laurocerasi*, which she had almost exclusively taken during the last few years, had no good result. The patient, who had seen better days and had been well educated, appeared to be a trustworthy observer of her symptoms. She believed that a strong infusion of coffee, which she frequently drank during her work, had much to do with the occurrence of her attacks. She had tried to get off the habit, but could never succeed, as the person for whom she worked was very fond of coffee and scolded her well, and called her silly. She also imagined that since taking the cherry-laurel water more frequently, she had become more excitable, irascible and quarrelsome.

As during her sojourn in the hospital her mode of living was quite different, and she had no coffee at all, *Nux vom.* 30 was so successful, that after the third attack, which occurred on the seventh day of treatment, there was an interval of five days. The following day (the 6th after the last attack) she left the hospital. As she sometimes visited me at my house, she told me that she had another attack on the fourth day after leaving the hospital, but it was of milder character. Since she has quite given up the use of coffee she has been for months free from every description of headache.

In another case where no exciting cause could be discovered *Atropin* 4 dec. trit. removed the attack. In two cases in which complete sleeplessness troubled the patient in addition to the pains, *Coffea* 3 dec. trit. removed the pains and the sleeplessness.

*Hysteria.*—Of the four cases of this disease which came under my observation, three presented themselves as disturbances of the sensory, one as disturbance of the sensori-motor sphere. Although the disturbances of both spheres are usually united in hysterical subjects, in most cases one or other sphere is more prominently implicated.

One case was noteworthy, where the disturbances in both spheres were so marked that I at first felt inclined to regard these symptoms as the evidence of pure spinal irritation. But the symptoms gradually assumed such a form that I found myself compelled to change my diagnosis to hysteria.

The patient, a working woman, æt. 30, was of middle size, regularly but delicately formed, and, until eight years ago, had been always healthy. At that time she went into the service of a very nervous lady. The sight of her frequent attacks of hysteria and the craze this lady had of always talking about her disease, led this woman to imagine that she herself suffered from the same disease, and on her mistress on one occasion falling down with a loud shriek, she was so frightened that her whole body trembled. From this time forward the trembling recurred whenever she was frightened; the last three years she has got so much worse, that everything that affects her unpleasantly, even such things as loud talking, singing, perfumes, &c., causes her to tremble, whilst fright and anger send her into convulsions. Much as she dislikes perfumes so does she enjoy the smell caused by shoeing a horse, and this induced her to take up her residence close to a smithy. Since she has been ill her catamenia have been very irregular, sometimes too soon, sometimes too late, but always scanty.

As regards her disposition she said she felt very unhappy, partly because she thought her complaint was incurable, partly because she got no sympathy, only ridicule, from her friends. At first she was very laconic, distrustful, and she buried her face under the clothes; but when she observed that I was interested in her disease she became very talkative. But when I asked her any questions whatever, she cast down her eyes modestly and only glanced occasionally about her, smiling. If the patient in the next bed laughed she was so much overcome that she first wept and sobbed, and afterwards clonic convulsions of the muscles of the pharynx, larynx and chest set in. Pressure with the finger, even when she was free from her fits, along the spine was everywhere disagreeable, but on the sixth and seventh spinal processes of the vertebræ it was declared to be extremely painful, and always caused the patient to start. Besides this she complained of tiresome drawing in the lower limbs, which she attributed to having got her feet wet. The temperature in consequence probably of the fit was increased, the pupils acted alternately rapidly and sluggishly, the tongue was slightly furred, and the appetite variable. Spasmodic short cough with quickened respiration; palpitation of the heart; small, hard, rapid pulse; hard contracted abdomen, and slight trembling of the whole body, constituted the remaining symptoms.

The irregularities of the catamenia, the sensitiveness of the spine to pressure, the drawing pain in the lower extremities, and the cause assigned—wetting the feet—led me to *Pulsatilla.* After using it four days I only succeeded in stopping the tiresome drawing pains in the lower extremities. The other symptoms remained unaltered. The attacks which came on once, twice or thrice within twenty-four hours, became more severe as regards the clonic spasms, but they were not more prolonged. They were frequently excited by external, but sometimes they came on without ascertainable, cause. The attack which I had again an opportunity of witnessing on the fifth day was excited by the senseless laughter of a patient whose merriment was aroused by the anxious faces made by the hysterical woman. It began with violent bursts of anger, weeping, sobbing; this was followed by short quick inspirations combined with a churning movement of the jaws, jerks in the chest, abdomen and limbs, great bending backwards of the head, the nape, and finally of the back. The throat was blown up, the face congested, the eyes projected from their orbits and rolled wildly about, until a forcible expiration, accompanied by a loud shriek, suddenly cut the paroxysm short. Touching the patient in order to feel her pulse produced in rapid succession a kind of very painful electric shocks in the tender points of the spine above alluded to, which rapidly extended over the whole body. The occurrence of these tonic spasms led me to give the patient *Cuprum met.* 30, a dose every two hours. The effect of this was that the fits, though they continued unaltered in frequency, gradually diminished in violence and the spasms became limited to merely a trembling of the lower extremities. I then gave *Ignatia* with advantage for the excessively irritable condition with bursts of anger, weeping and laughter. The patient became quieter and interested herself a little in what she saw around her, which she had previously never noticed except in her bursts of angry talk. Actual spasms did not recur, but if she was irritated her face quickly got red, some swallowing movements took place and perceptible trembling of the body. Consciousness was never affected during the fits.

In order to act on the menstrual functions, when she left the hospital I gave her *Pulsatilla* to go on with.

*Melancholia* occurred in a pregnant cook forty years of age. She was under the delusion that she should be poisoned. But as regular mania came on in the course of a few days she had to be transferred to the lunatic asylum.

The three cases of *Meningitis* that came on were genuine. The two fatal cases had a traumatic origin. The third and only one cured was caused by a sunstroke. The only medicine used in this case was *Apis mel.*

One of the cases of *neuralgia nervi trigemini* is interesting in consequence of occurring after an ague that had been removed by large doses of *Quinine*, and having a perfect intermittent character. Every day at 6 p.m. the patient had very painful flying shoots proceeding from the infra-orbital region towards the temple. They were usually combined with cold feeling which gradually changed into warm feeling; the shooting pains changing after half an hour into very annoying pinching clawing pains combined with loud ringing in the ears. The paroxysm generally lasted till midnight in the same intensity, after that it went off sometimes suddenly as if some one had suddenly let go the hair of the temples and side of the head, or the clawing and pinching became gradually less and combined with dull, shooting, lightning-like pains, during which she fell asleep, and woke in the morning with a dazed feeling that generally went off in half an hour. The appetite was always good, and the patient scarcely drank anything during the day; when the attack was on she had to drink almost incessantly on account of the burning feeling in the mouth and throat.

Physical examination showed great enlargement of the spleen, and a commencement of the ague cachexy with œdema of the ankles and eyelids.

*Arsen.* 6, and afterwards, when complete sleeplessness came on, *Coffea* 6 removed the complaint entirely.

### 3. DISEASES OF THE EAR.

The only case of otitis that presented itself was in a young girl who had recently had an attack of scarlatina. The desquamation of the skin had completely ceased. The urine still showed traces of albumen. *Apis* quite removed the complaint.

### 4. DISEASES OF THE EYE.

The cases observed were merely inflammations of the conjunctiva of the lids, or of the lids and globe of the eye at the same time. *Belladonna* and, in one case, *Euphrasia* effected a cure.

### 5. DISEASES OF MOUTH AND THROAT.

*Odontalgia* was represented by the rheumatic form; one case yielded to *Staphisagria,* the other to *Rhododendron.*

*Parulis* was almost always dependent on carious teeth. *Merc. sol.* was the remedy in most cases.

*Angina* in three cases was simple congestion of the pharyngeal mucous membrane. In nine cases only one, in the remainder both of the tonsils were affected. In the slighter cases *Belladonna* sufficed to effect a cure; but the severe cases with formation of pus demanded both *Bell.* and *Merc. sol.* In two cases which assumed the form of severe angina diphtheritica, *Iod.* and *Brom.* were employed.

## 6. DISEASES OF THE HEART.

The most frequent of these was *insufficiency of the mitral valve.* The exciting cause, as far as could be ascertained, was always articular rheumatism.

In four cases there was dilatation and hypertrophy of the left ventricle, manifested by increase of the transverse diameter of the heart. At the same time there were considerable derangements in the circulation—such as dyspnœa, periodical asthma and cyanosis of the cheeks, lips and finger-nails, and in two cases considerable albuminuria, œdema of the hands and feet and bronchial catarrh.

As regards duration, they varied. Some of the patients said that they had observed for several years palpitation of the heart or dyspnœa, or both together; whilst others within the last ten years had been four times and upwards in the hospital, and among them the disease had already lasted a long time.

One case was also complicated with stenosis of the left ostium venosum.

Stenosis of the aorta and insufficiency of the aortic valves were each met with in one case.

As regards treatment, it was regulated by the accompanying symptoms.

*Aconite* was only used when, in addition to a greatly increased action of the heart, there was visible orgasm of the heart.

*Spigelia* was given when the increased heart's action depended on an irritable condition of the nerves.

*Phosphorus* was indicated where there was pretty strong action of the heart, and particularly when there were signs of implication of the respiratory organs—as bronchitis, hæmoptysis, &c.

*Arsenicum,* where there was albuminuria, œdema of the feet, periodical attacks of asthma, and burning pain under the sternum.

*Antimon. tart.* in one case where a commencing œdema of the lungs showed itself by loud rattling heard at a distance.

*Carbo veg.* was once given with advantage where a marked dyspnœa with cyanotic colour of the skin were the most prominent symptoms.

*China* and *Ferrum met.* were indicated where there was manifest œdema.

## 7. Diseases of the Respiratory Organs.

*Laryngeal catarrh* demanded the employment of *Hepar* and *Spongia.*

In *catarrh of the mucous membrane of the respiratory organs* and in *bronchitis* the following remedies were used.

*Aconite* at the commencement of the complaint when it was ushered in with violent fever. The respiration short and rapid; percussion elicited nothing abnormal; but auscultation showed increased loudness of respiratory sounds and wheezing. Sometimes the complaint declined perceptibly in twenty-four hours, and was quite gone in from three to five days.

*Bryonia* was serviceable when the cough was short, dry, and painful; and the patient complained of complete loss of appetite, with slightly furred tongue.

*Phosphorus* was of use when there was difficult, short breathing, vesicular râles, feeling of pressure along the sternum, and the expectoration was difficult and scanty.

*Ipecacuanha* was given with good effect when, in addition to severe bronchial symptoms, there was derangement of the digestive system; as thick-furred tongue, disgust at food, vomiting, loss of appetite, with or without watery painless evacuations.

*Nux vomica, Pulsatilla,* and *Hyoscyamus* were seldom used.

The two cases of *exudation in the pleuritic cavity* were the effects of previous pleuritis. In one case the youth, robust frame, healthy appearance, and rapid absorption of the exudation showed it to be serous in character. It was quite removed in eleven days by means of *Sulphur*. In the other case I had to do with a debilitated subject, in whom examination showed old-standing tubercles in the apex of the left lung. *Sulphur* soon removed the fluid portion of the exudation. *Calc. carb.*, which was afterwards given, improved the patient's appearance, reduced the accelerated pulse to its normal state, and improved the appetite.

Twelve cases of *pleuritis* were admitted, one of which terminated fatally.

The majority of cases occurred on the left side. Five cases were followed by exudation. In the case that died there was advanced tuberculosis of the left lung, and moderate hypertrophy of the heart.

The treatment in those cases where there was no obvious dyscrasy was limited to *Aconite* and *Bryonia,* and, when exudation occurred, *Sulphur*. But in the debilitated, dyscrasic subjects, when the respiratory organs were involved, *Arsenic, Calc. carb., Carb. veg.,* and *Phosp.* were given.

In the cases of *laryngitis, Bellad., Hepar, Spongia, Iodine,* and *Carb. veg.* were given with good effect.

The *pneumonias* were mostly on the right side, and, with the exception of two cases, remained confined to the side they commenced in. In these two cases only, one of which terminated fatally, was a transference of the disease to the other lung observed.

The part first affected was in seventeen cases the *lower,* in two cases, the upper, and in three cases the middle lobe.

One case was combined with tertian ague, which only assumed its true intermittent character after the cessation of the pneumonia.

*Aconite,* and afterwards *Phosph.,* were indicated in the majority of the cases. *Arsenicum* removed the aguish paroxysms.

*Tuberculosis,* generally speaking, presented nothing new. One case only, which I shall here relate, was interesting on account of its peculiar course.

A single woman, æt. 35, was admitted in spring with symptoms of advanced tuberculosis. The disease at the commencement of its course offered nothing remarkable. The patient had strong fever, expectorated freely, the sputa being sometimes yellow and flaky, sometimes more watery and brownish red. Physical examination revealed among other things cavernous breathing at the left lower angle of the scapula. The second week of her residence in the hospital she complained of the sudden occurrence of a shooting pain in a spot above the cavity, which prevented her taking a deep breath. She was at the same time more excited than usual, lost her little appetite and the palms became hot. Two days afterwards the shooting pain changed to burning, and on the patient coughing more strongly she felt in the painful spot a sensation as if she were torn to pieces. She started up with a sudden cry, more quickly than she could have been expected to do, as she felt about to be suffocated. At the same time there occurred singing in the ears and darkness before the eyes. Sprinkling with water warded off the impending faint.

When I saw the patient three quarters of an hour later she presented the following picture: She sat up in bed with her back supported, breathed with difficulty and shortly, the eyes projected out of their orbits, and were dull and lustreless. Lips blue, the cheeks also—they were previously red. The left side of the thorax scarcely moved at all during the painful and interrupted efforts at respiration; the intercostal spaces were effaced, which gave that side of the chest the appearance of being enlarged. The percussion sound on the left side inferiorly up to the lower third of the scapula was dull, above that tympanitic. In the dull part auscultation revealed no respiratory sounds, at the upper limit of the dull part on coughing a mixture of hissing and coarse metallic râles was heard. The heart was pushed to the right and downwards, the heart's beats were strong and quick, the pulse quick and thready.

No doubt there had taken place here a rupture of the pulmonary parenchyma above the cavity, an effusion of the contents of the cavity, and at the same time the escape of air through the rupture into the left pleural sac.

I made the patient preserve the sitting posture in which I found her; I also continued the cold compresses to the forehead and temples, which were doing her good, and prescribed *Carb. veg.* 30 every two hours.

For four days the patient hovered between death and life. After that the dyspnœa and cyanosis were somewhat relieved, and the pulse became stronger. I left off the *Carb. veg.* and gave nothing but distilled water in order to allow the *Carbo* to act undisturbedly. For three days the patient improved daily, so that she was able to get at night from a quarter to half an hour's uninterrupted sleep. The following day bronchitis came on in the right lung, which was very distressing to the patient on account of the short dry cough. *Phos.* 30 relieved these symptoms.

Though still in some degree cyanotic, the dyspnœa and attacks of suffocation were so far relieved that the patient said she felt tolerably well. The tympanitic percussion sound extended downwards to the apex of the scapula. This condition, however, was destined not to be of long duration. A burning pain under the left nipple came on which gradually increased till it became intolerable, and completely deprived the patient of sleep. At first no pathological change could be detected there. I prescribed for this pain *Arsen.* 30 the more readily as the other symptoms corresponded to *Arsenic.* There soon, however, appeared at the lower border of the left mamma an oblong tumour, the size of a pigeon's egg, very painful to the touch. This increased every day in size. In three days it had attained the size of a hen's egg, the skin which was tightly stretched over it was red and so painful that the mere touch of her shift caused the patient to cry.

Considering this swelling to be an inflammation of the cellular substance I prescribed *Merc. sol.* 6.

From this time the tumour did not increase much in size. It showed in its centre a soft spot as large as a bean, which slowly spread all over the swelling. As the patient objected to it being opened artificially I left this operation to nature. On coming to the hospital one day the sisters showed me a bloody purulent fetid mass of about two pounds' weight, which on the tumour opening spontaneously had been noisily discharged through the hole. The appearance, fœtor, and quantity of the matter discharged, which could not have been contained in the comparatively small tumour, justified me in thinking that its source was to be looked for elsewhere than in the visible spot, and that the swelling and inflammation of the cellular substance were caused by the pressing forward of the pus.

But as no such source was to be discovered on the outside of the thoracic parietes—for had it been there it would not have escaped notice—I became convinced that here was a case of external bursting of pus collected in the left pleura, and this view was confirmed by the circumstance that along with the pus much air was discharged, which had collected over the pus and had caused the tympanitic percussion sound.

I could push a probe upwards under the left mamma as far as the nipple, it could not go further. The sinus was about three quarters of an inch broad and one and a half inch long.

As long as the patient lay on her back but little pus escaped from the small circular opening ; but when she turned on to the right side, which she could do for a short time, as the oppression of the chest had declined much after the evacuation of the mattter, then there would be discharged as much as half a pound of pus.

Such a horrible stench came out of the opening that in spite of all sorts of fumigations and ventilation of the room the patients for three beds on each side could not stand it. Although from this time the patient's strength perceptibly declined, still she lived nine days longer, and died with the symptoms of pyæmia.

Post-mortem examination showed tubercular infiltration of the left lung. In the middle third of the lung were several smaller cavities surrounding the larger cavity which had been observed during life, which was as large as a child's fist, but now collapsed. The wall next the pleura was hardly half a line in thickness, and was puckered in by a cicatrix. There was no longer any communication with the cavity of the pleura. Betwixt the fourth and fifth rib opposite the nipple the pleura and intercostal muscles were penetrated by an irregular opening, the size of a hazel nut, which led into a sinus half an inch broad and one inch long, covered by the pectoral muscles, the mammary gland and the general integument, running obliquely inwards and downwards and terminating in the abscess cavity that lay on the seventh rib. The pleura in its lower third was deprived of its epithelial covering, and displayed irregular spots of ulceration from the size of a pin's head to that of a bean; these were covered with a dirty greyish-brown fetid substance, easily removed.

As the point of perforation in the lung which had given rise to the pyothorax was cicatrized, this explains how the patient, at one period of the course of her disease, felt tolerably well, because no more air nor pus could be discharged into the cavity of the pleura, and probably a partial absorption of the absorbable portion of the exudation took place, whereby the pressure on the lung was diminished. The position of the openings, and the course of the sinus, explain how it was that the air from without did not penetrate into the pleural cavity when this was suddenly emptied on the bursting of the abscess.

## 8. Diseases of the Alimentary Canal.

*Carcinoma of the stomach* was accompanied by the following symptoms: general emaciation and waxy look of the skin, pressure and weight in the stomach, tenesmus, burning in the region of the pylorus, frequent nausea, sometimes vomiting of an opaque, curdled, sour-smelling fluid, stools sometimes diarrhœic, sometimes costive, want of appetite and sleep, and general weakness. On the lower extremities œdematous swellings.

*Arsenic* removed the burning pains and made the bowels regular. *Lacerta agilis* 30 restored sleep and appetite.

These two medicines produced such amendment that the patient could be dismissed so far relieved that the general strength was increased, moderate amount of appetite returned and remained; sleep in the after-midnight hours was continuous and refreshing; the vomiting, nausea, burning, and œdema of the feet completely gone. The weight and pressure in the stomach, however, remained as before.

*Intestinal catarrh* presented nothing worthy of notice.

In *Dysentery* I found *Merc. corr.* when indicated always most efficacious. If the case was recent the effects were visible within twenty-four hours. In cases that had already lasted some time the purulent discharge was ameliorated in both quantity and quality by the fourth day.

In the solitary case of *perforating ulcer of the stomach* that came under treatment, death as a consequence of extensive peritonitis came on so rapidly that within twenty-four hours the patient was well and a corpse.

She was nineteen years old, looked well nourished and strong, and had never been long or seriously ill. She had certainly never suffered from stomach affections. On the 26th June she ate with the best appetite a good plateful of lentils, she then went to scrub the floor, during which she felt quite suddenly a violent burning pain in the gastric region which made her scream out, after which she sank to the ground unconscious. The pain soon spread all over the abdomen, and vomiting of the food she had swallowed rapidly ensued.

A colleague who was called in caused her to be at once removed into the hospital.

I found the patient in great dread of death, groaning and tossing about in bed. The forehead was bedewed with large drops of clammy cold sweat. Speech was frequently interrupted by hiccough and retching, sometimes followed by vomiting of a small quantity of clear acid fluid mingled with undigested boiled lentils. The abdomen was distended and very sensitive to touch. The pulse was small, thready; the skin flaccid and cool. None of the others who had partaken of the lentils were at all ill. The next day she was a corpse.

Post-mortem examination showed on the small curvature of the stomach a circular ulcer the size of a pea, with sharp edges, which had penetrated through the coats of the stomach. A portion of the contents of the stomach had got into the peritoneal cavity, where a considerable number of lentils were found. The parietal as well as the visceral layer of the peritoneum was in a state of inflammation.

Of the three cases of *hæmorrhage from the stomach,* one was of the *acute,* the two others of the *chronic* form.

The causes of the hæmorrhage, which were in all the cases internal, could not be determined; in one case only a perforating ulcer of the stomach could be almost certainly diagnosed.

*Acid phosph., Arsen., Carbo veg.,* and *Ipec.* were employed.

## 9. Diseases of the Glands.

A maid-servant, aged 30, got a whitlow on the right ring finger. Her mistress laid upon the inflamed part a dark brown plaster of a very acrid nature. The consequence was that the pains increased till they became intolerable, the skin was burnt away in several places, and the arm swelled. She was brought to the hospital.

On removing the plaster, which adhered firmly, the soft parts of the affected finger, from the nail to the commencement of the first joint, appeared eaten away; nowhere was a trace of cutis to be seen. The tendons, and in some places the bones also, were laid bare. The hand, especially its back, was much swollen. Along the inside of the forearm, elbow, and axilla, there were hard spots, from the size of a hazel-nut to that of a walnut, very painful to the touch, with tense skin around them of erysipelatous redness.

I prescribed *Apis.* The erysipalous reddened spots in the skin ran together, so that next day the whole upper extremity up to the shoulder was involved in the erysipelas. The patient could now only move the arm a little with great pain. *Apis* was continued, and the arm enveloped in wet cloths. Whilst the erysipelas gradually spread over the whole trunk as far as the seat, then over the left arm, and at length over the anterior surface of the chest, there formed in the axilla and bend of the elbow purulent deposits which were artificially opened, and the former discharged four, the latter three ounces of pus. The cellular substance of which the finger had been deprived was gradually restored, the nail fell off, the affected finger resumed its mobility, but it remained of a blue colour, like a ripe plum, and its temperature was so low that it felt like the finger of a corpse.

I should mention that whilst the erysipelas was spreading over the right extremity, the patient was in continual delirium. The medicines employed during the disease, in addition to *Apis*, were *Merc. sol.* and *Lachesis.*

One case of *inflammation of the mamma* in a nursing woman, another in a woman of 52, came under treatment. The cause alleged was a blow on the breast. Both cases suppurated and got well.

In the first case *Bell.* and *Merc. sol.*, in the second *Arnica* and *Merc. sol.* were employed.

*Parotitis* only occurred once as an idiopathic disease. The patient could tell of no exciting cause. *Bell.* cured without causing suppuration.

## 10. DISEASES OF THE LIVER.

The subject of *acute yellow atrophy of the liver* was a washerwoman, æt. 42, who had hitherto enjoyed good health.

She ascribed her disease to excessive overloading of the stomach with food and spirits, but this could not be regarded as the original cause, as the patient had frequently indulged in similar excesses without the same consequences. It would be nearer the truth to say that her disease was owing to the habitual use of alcoholic drinks.

The disease began, no doubt, by frequent vomiting of food immediately after the surfeit, great nausea, tenderness of the stomachic and hepatic regions to pressure, fever and diarrhœa. When she came in there was still a yellowish tint of the sclerotic. The tongue was furred dirty yellow, the *gastric* region distended, and, together with the hepatic region, tender to slight pressure. Pulse 120. In addition the patient complained of great faintness and aching in the temples.

The medicine selected was *Nux vomica,* partly because the symptoms corresponded to it, partly because the patient was a great drunkard.

The following day I found the patient still yellower. The vomiting and nausea were gone, but the fever was greater, with occasional delirium. Hepatic and gastric region still as tender as before. The size of the liver was not altered. I was at first disposed to attribute the cerebral symptoms to commencing delirium tremens, as the previous life of the patient rendered its occurrence probable: but soon the increased tenderness of the hepatic region, the rapid shrinking of the liver, the continued delirium, &c., showed that it was a case of acute atrophy of the liver. *Bell.*, which corresponded most nearly to the symptoms, was first given, and afterwards *Arsen.*, in consequence of the general prostration and the exhausting diarrhœa, first of bloody matter, afterwards of very fœtid fæces; both remedies were given without result. On the ninth day of treatment death ensued amid typhoid symptoms.

*Post-mortem* examination corroborated the diagnosis of acute yellow atrophy of the liver.

A case of *granular liver* was admitted in the stage of atrophy of the liver with its consequences. The only remarkable thing about it was that the patient, who was forty-three years old, had universal dropsy and profuse metrorrhagia.

The cases of *icterus* were all of the catarrhal sort, and were treated with *Bryonia, China,* and *Nux vomica.*

## 11. DISEASES OF THE PERITONEUM.

The only cases admitted were of *peritonitis.* In thirteen of these it was circumscribed, in eighteen diffused. In fourteen cases perceptible exudation occurred. In six cases the commencement of the disease corresponded to that of the monthly illness, and hence presented the picture of menstrual colic. The locality of its origin was in nine cases one or other ovarian region, or both at once. In all these cases the ovary itself was simultaneously affected. In one of the two fatal cases typhlitis was the exciting cause. The other fatal case occurred in the puerperal state. The chief remedies used were *Bryonia* and *Sulphur*.

### 12. DISEASES OF THE KIDNEYS.

The case of *albuminuria* was a sequela of scarlatina. It was successfully treated with *Apis*.

The two cases of *Bright's disease* showed great œdema of the feet and copious *albuminuria.* In one case bronchitis also was present, attended with very copious serous expectoration. As such bronchial phenomena often accompany diseases that are attended by considerable deficiency of solid constituents in the blood, and, as a rule, do not disappear before the composition of the blood improves, and as the beneficial effects of *Apis* in dropsies dependent on a deficiency of solid constituents in the blood were known to me, I was not deterred from prescribing it in the 6th dilution by the bronchitis present. The dropsical swellings and the morbid affection of the bronchial mucous membrane completely disappeared in three weeks. The success of the treatment on the albuminous contents of the urine was obvious at first, afterwards this phenomenon remained stationary. Then *Arsen.* 30 was given. Under its use the patient recovered visibly, and when she left the hospital the amount of albumen was considerably diminished.

In the other case also *Apis,* followed by *Arsen.,* was very useful.

### 13. SEXUAL DISEASES OF FEMALES.

Of these the *Chloroses* and *Metrorrhagiæ* are deserving of attention.

A girl in an advanced stage of green-sickness was seized without perceptible cause with rheumatic swellings of the joints, first of the right then of the left ankle, of the knee, and lastly of the right wrist. The skin over the swollen joints was pale red, almost transparent, and the joints themselves very tender to touch or pressure. At the same time there were profuse perspirations all over the body. *Tart. em.* 6 completely removed this affection, but scarcely had she recovered from this when febrile symptoms recurred, and the lower lobe of the right lung showed signs of pneumonia. The infiltration extended up to the middle of the scapula, and went off under the use of *Phosph.* These morbid processes succeeding one another so rapidly increased the poverty of the blood to the greatest degree, which was evidenced by œdema of the feet, legs, thighs, hands, and eyelids, by swelling of the spleen and loud blood murmurs. The appetite did not return after the cessation of the pneumonic process. *China* had no effect. *Ferr. met.* 6 caused frequent attacks of fainting, dimness of vision, vomiting, and continuous eructations and stomachache. *Nat. mur.* 6, on the other hand, not only removed the morbid conditions mentioned, but the appetite returned and daily increased during its use. As the appetite increased the dropsical symptoms declined; the sleep also, which had been very disturbed, became sound. Only the paleness of the face and of the mucous membranes, the want of power in the muscles, the swelling of the spleen, and the blood murmurs, made but slow progress. I therefore gave *Ferr. met.* 6 once more. This time it was well borne, and under its use the patient recovered perfectly.

One case of *metrorrhagia* was remarkable for its frequent recurrence, the long continuance of each attack, and the profuse discharge.

The patient was a tall, thin servant girl of thirty. After a miscarriage the violent hæmorrhages occurred four times in ten weeks, lasted each time from eight to ten days; during the first five days much bright red fluid blood came away without pain. The attack that came under my observation was the fifth, and lasted not quite two days.

The blood lost in one hour and a half might have been about two ounces, and was bright red. The patient had no pains. The organs of reproduction showed no signs of disease. With the exception of a certain degree of anæmia no pathological change was discernible.

*Sabina* 6 had such a good effect that after not quite thirty hours' employment of it all hæmorrhage per vaginam had ceased.

### 14. Diseases of the Bones and Joints.

Two cases of *coxitis* were admitted, both of which were cured by *Silicea* 30.

A case of *dislocation* of the humerus caused by a fall on the arm was reduced, the required bandage applied, and under *Arnica* lotions the patient made a good recovery.

*Periostitis* occurred on the inside and anterior ridge of the tibia from its upper third to within two inches of the ankle. The patient recovered in six weeks under *Silicea* 30 alone.

### 15. Diseases of the Skin.

The case of excoriation required only cold compresses for its cure.

Of the eight cases of *eczema* three were *acute*, five *chronic*. All the three acute cases recovered under the use of *Bell.*, *Merc. sol.*, and *Sulph.*

Only an amelioration could be effected in the chronic cases. *Calc. carb.*, *Arsen.*, *Merc. sol.*, *Lycop.*, and *Sulph.*, were most efficacious.

*Erysipelas* occurred ten times in the face and four times in other parts of the body. As a rule *Apis*, *Bell.*, and *Rhus tox.* effected a cure in a few days.

Only one case of *measles* came under treatment. It presented nothing remarkable.

The *whitlows* generally terminated favourably. But in two cases the last joint of the finger was lost. One case had a very remarkable course. When admitted she had a whitlow on the right forefinger, where matter had already formed. The whole finger was swollen, like a rolling-pin, bluish-red and painful to the touch. The palm of the hand was also much swollen. In a few days four separate deposits of pus were formed, one on each of the three phalanges, the fourth on the metacarpal bone of the right forefinger. The destruction of the soft parts was so great that in some places the bone was visible. Small necrosed osseous splinters came away from the metacarpal bone and the first phalanx. Under the continuous use of *Silicea* the necrosis of the bones ceased, the wounds closed, and in forty-two days the patient left the hospital quite well.

*Inflammation of the cellular tissue* occurred in various parts of the body, chiefly, however, in the hand. That it occurred most frequently in the hand, and chiefly in scullions, may be owing to this, that these women employ a hot and strong alkaline solution to clean their pots and pans. This, and running out with wet hands into the open air in winter (most of the cases occurred in the winter months), cause destruction of the epidermis, which extends to the cutis, producing very painful chaps and at length inflammation of the skin and of the cellular tissue beneath it. All the cases were cured with *Merc. sol.* and *Hepar sulph.*

The case of *scarlatina* was a very severe one. In addition to very quick pulse, intense eruption and cerebral symptoms, there was present a small quantity of albumen in the urine. *Apis* and *Arsen.* cured the disease.

All the *ulcers* were of the varicose kind, and were situated on the lower half of the leg. Employed with success were: *Arsen.*, when the ulcers showed no reaction, were covered with a fluid, greyish yellow substance, had been long in existence, and had burning pains; *Silicea* in ulcers of similar appearance, but when instead of burning pain there were violent lancinating pains; *Sulphur* in more superficial ulcers with great itching; *Belladonna* was employed but rarely, and then when the ulcer was surrounded by erysipelatous inflammation.

The cases of *smallpox* were all transferred to the smallpox wards of the General Hospital: we had no special accommodation for them.

One case of *burn* was caused by boiling water, another by burning *Petroleum*. The latter extended over the face, the right shoulder, and both hands. The vesicles were cut open, and cold water compresses, to which a few drops of tincture of *Urtica urens* were added, were applied to the burnt spots. Both cases got well without cicatrices.

The *bruises* were not very extensive, and required nothing but the application of *Arnica*.

The *wounds* were but slight; one only could be called serious, it was occasioned by a fall from a height, and was followed by concussion of the brain. Bringing together the edges of the wounds, and the external and internal employment of *Arnica*, sufficed to cure the patients.

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# OVARIAN CYSTIC TUMOUR.

By Francis Black, M.D.

An unmarried lady, æt. 32, with dark hair and healthy appearance, has suffered since the 23rd July, 1867, from severe cutting pains in the hypogastrium, but they became more severe on the 29th, when I was consulted. The patient has hitherto enjoyed good health, and with the exception of a tendency to severe headache in the temples attended by great intolerance of light and sound, the general health has been good, and there have been no signs of disorder of the uterine functions.

She has prescribed *Puls.* for herself, and thinks it has much diminished the headache.

July 29th.—She complains of sharp cutting pains which sometimes are most agonising, felt principally in hypogastrium and towards right iliac region. The pains are much increased by walking, there is slight tenderness on pressure over right iliac region, and towards the groin. The abdomen is much distended by flatulence, but above pubis and to right side there is a suspicion of swelling, as if bladder were over distended. Bowels costive, urine scanty and high coloured, no appetite, tongue furred, pulse normal.

From 29th July to 10th of August the remedies given were *Bry.*, *Bell.*, *Merc.* Frequent hot sitz-baths were taken, and hot poultices applied to the abdomen. The pain gradually subsided, recurring, however, in strong paroxysms from time to time: the flatulent distension disappeared, and then the suspicions of tumour were fully confirmed. A smooth tumour, of the size and shape of a cocoa-nut, can be felt low in the hypogastric, and right iliac region. The tumour is now slightly tender when pressed, but palpation gives no evidence of liquid contents.

August 14th.—Pain and tenderness have now disappeared, the tumour is evident to the sight, and the patient states that since April, 1867, she has noticed an increased size of her bowels. *Graph.* 3 two grains every evening.

19th.—The attempt to pack a trunk has caused a return of intense pains in the right iliac region extending through the bowels, and to the loins. *Bell.* 1 was first given, and this failing to relieve, *Conium* in frequent doses was prescribed with good results.

September 21st.—The tumour has now attained a large size, it feels smooth and tense, is slightly tender when pressed, and there is indistinct fluctuation.

The abdomen, measured round in a line with iliac crests, is thirty-six inches.

The urine is scanty, and there are frequent painful calls to pass it. *Bromide of potassium*, gr. xii; *Aq. dest.* ℥vi.

A dessert-spoonful to be taken three times a day in a wineglassful of water.

A tepid sitz-bath in which is dissolved a teaspoonful of *Brom. Pot.* to be used every forenoon, and during the day an abdominal compress soaked in a similar solution to be worn.

This treatment was steadily followed, with from time to time a few days' interruption, until the end of February, when it was discontinued.

During October and November there were now and then threatenings of attacks of ovarian pain, which were speedily relieved by *Con. A.* By the end of October there was evident diminution of the tumour; this diminution steadily continued, so that by the end of February, 1868, the swelling was scarcely to be discovered, and by April it had entirely disappeared. A careful examination on the 30th of May gave the same results, and another made in August afforded no trace whatever of tumour, the measurement of abdomen taken in a line with crests of ilium being twenty-six inches, showing a diminution of ten inches. It does not appear necessary to discuss the nature of this case, for though ovarian tumours do sometimes present great difficulties in determining their seat and character, yet in this instance all the circumstances facilitated the diagnosis. The course of the tumour from its commencement, throughout its growth, and its decrease, was easily traced. The absence of all disturbing points such as pregnancy, disease of the womb, liver, and bowels, coupled with an indistinct fluctuation, left no doubt in my mind as to the existence of an ovarian cystic tumour probably unilocular. In coming to this conclusion I was quite aware of the existence of simulated tumours which have led even to the serious blunder of performing ovariotomy where no actual tumour existed. It was such a mistake in the hands of Lizars (1823) which led Liston to apply the term belly-ripping to the operation. But in my patient's case the course of the tnmour so precluded this possible error in diagnosis, that I did not deem it necessary to use Sir J. Simpson's simple test, the inhalation of chloroform, under which such phantom tumours suddenly disappear.

When the nature of the case was explained the patient and her family naturally became alarmed; and soon the question was raised, Ought so serious a case to be left under homœopathic treatment, or, as was urged by some of the friends, ought the patient to be placed under an eminent surgeon in London who has deservedly gained reputation in performing ovariotomy? The patient's choice was influenced by a fatal result in the case of a young lady, æt. 19, her neighbour, who had not long before submitted to this operation, so that she was inclined to follow the advice I gave her, to this effect:

I cannot hold out any hope of cure; I have occasionally treated ovarian tumours, but only in a cursory way; I have never cured any, but whether owing to treatment or to natural results I have known such diseases exist for years without much disturbing the health, while others again have rapidly shortened and harassed the patient's life. As long as your tumour does not rapidly increase, and your general health does not suffer, resist all surgical interference.

The patient gladly accepted this advice, and she was willing to submit to a medical experiment.

In fixing on the medicines my argument was this. I have found various remedies, such as *Bry.*, *Bell.*, *Con.*, *Graph.*, *Plat.*, *Puls.*, *Sep.*, *Iodide of Merc.*, useful in inflammatory and functional diseases of the ovary; why may they not be beneficial in removing that peculiar morbid nutrition which permits the Graafian follicules to become enlarged, hypertrophied, and dropsical? There seems nothing impossible in this, but my experience had been nugatory, and homœopathic clinical records throw little light on the subject, so I resolved to make this experiment with a new remedy. In selecting the *Bromide of Potassium* I had no true indications; it is known to produce anæsthesia of the sexual organs, and the efficacy of the Kneuznach waters in discussing fibrous tumours of the uterus is attributed to the presence of this salt.* Shortly after commencing this remedy the tumour gradually diminished, and in six months it had entirely disappeared. No apparent physiological action of the remedy was manifested, unless it was an increased flow of urine which previously was scanty.

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* Nearly as much as is known of the physiological action of *Bromide of Potassium* is given by Dr. Hughes in this number of the Journal, p. 10. In this extract Dr. Victor Bazire says, "In no case have I yet seen delirium or hallucinations," but Mr. Catell, *Brit. J. of Hom.*, vol. xi, p. 344, reports dull headache, peculiar stupor, and irresistible tendency to sleep, interrupted by a strange kind of delirium, differing from that of other narcotics; stupid incoherence, as in idiocy, with occasional hallucinations.

Was recovery in this case dependent or independent of the *Bromide of Potassium?* I have as yet met with only one other successful case which has just been published in the November number of the *Edinburgh Monthly Journal.** In this interesting case the tumour was so large as to necessitate tapping. If in the natural history of such cystic tumours it is very rare to find one which has gained any size disappear without surgical interference, so is it as rare to find the fluid cease to collect after tapping; on the contrary, this operation by removing pressure appears to stimulate the serous secretion. The disappearance of the tumour after tapping is strong presumptive evidence of the therapeutic virtue of the *Bromide.* From the time this remedy was administered diminution of size commenced; then after some months the *Bromide* had to be suspended, owing to an attack of gastritis, when the tumour which had been reduced to a small compass gradually regained the same size as previous to the tapping, and even caused the impression that the operation must be again performed. But under the action of increased doses of the *Bromide of Potassium* the tumour again gradually diminished; the pain ceased; the general health improved, and at last the tumour wholly disappeared. An examination per rectum discovered the existence of a small excrescence on the left ovary, the shrivelled remains of the ovarian cyst.

These two cases may fairly be considered as probable instances of the therapeutic virtues of *Bromide of Potassium.* The difference of dose in the two cases is marked. I administered for months one grain three times a day, in addition to the medicated sitz-bath and bandage, while Dr. Miller gave five grains three times a day for two months, and then increased the dose to fifteen grains, with the curious result that the constant nausea excited by the five-grain dose disappeared under the use of the larger. It is to be hoped that future trials of *Bromide of Potassium* may remove the general discouragement which exists in the profession as to the utility of any remedy in ovarian dropsy.

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* A full abstract of this case is given in the appendix to this paper.

I give in a note the only cases I can find of ovarian cysts treated by homœopathic remedies.*

From the comparative success of ovariotomy at the present time it is to be feared that the probabilities of medical treatment being useful will be more than ever overlooked, and cases in their early stage be subjected to operation.

It is very difficult to get an accurate return of the natural termination of ovarian cysts. The process of growth varies greatly, sometimes it is slow, hardly observable, then rapid increase may take place. This again may, for longer or shorter periods, be arrested, and in some instances not shortening life; but more frequently great increase takes place, torturing the patient and causing death. Sometimes, though very rarely, the cyst ruptures into the rectum or peritoneum, sometimes killing the patient, and in other instances leading to cure. The tendency to cyst formations is often temporary, apparently exhausting itself in the production of one large cyst, and thus diminishing the likelihood of a fatal issue. The dangerous nature of the tumour increases when it is formed of a successive production of cysts within or upon those first formed.

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* Dr. Craig reports a case of unilocular ovarian cyst, in a patient æt. 74, where he tapped for the third time; after this operation Dr. Irvine treated the case homœopathically; no remedies named. The disease did not return to an extent to cause discomfort, and she lived eight years and died from senile decay. The post-mortem revealed a unilocular cyst containing three pints of fluid, and attached by a small pedicle to the left ovary.—*Brit. J. of Hom.*, vol. xviii, 1860.

He mentions another case of gradually increasing ovarian tumour in a woman æt. 25. After eight months of unsuccessful treatment—he names no remedies—Dr. Craig, in December, 1852, tapped the tumour and drew off fourteen pints of fluid. The abdomen was kept well bound up, and she took *Apis* for four months. In October, 1857, the swelling had again become uncomfortably large, eleven pints of fluid were withdrawn, and *Apis* given for a length of time. In 1858 she married; she has had no children, and in 1860 there was no trace of the tumour.

He reports another case in a patient æt. 36, which he tapped four times in two years, giving *Apis* after each operation; she at last became so exhausted that he declined to operate a fifth time; she died shortly after. In this case the tumour had existed thirteen years.

Dr. Hirsch, of Prague, reports a case of ovarian cyst which had increased so much as to injure the health of the patient. He at first gave *Can. sat.* with relief to the dyspnœa, cough, and scanty urine, &c., but no marked diminution of the tumour was apparent. He then prescribed the iodine mineral waters of Hall, in doses which he estimated to contain the forty-eighth of a grain of *Iodine*. In fourteen days the tumour was less, and in four weeks it had nearly disappeared. A short residence in the country completed the cure, and four years had elapsed without any return of the tumour.—*Brit. J. of Hom.*, vol. xx, 1862, extracted from *Meyer's Allgemeine Homöopathische Zeitung*, May, 1862.

Dr. Edward Philips reports a case of ovarian disease where there was a tumour the size of a hand with sharp, shooting pains, and great swelling of the abdomen. There was here great general and uterine disturbance. *China* and *Nux* were the remedies given, and with great and speedy benefit. Soon the abdominal swelling disappeared, and the swelling could not be distinctly felt. But the last report, though it states os uteri natural, makes no mention of the conditions of ovary, an omission much to be regretted.—*Brit. J. of Hom.*, vol. ii, p. 322.

The difficult question to solve is, How many live with ovarian dropsy, how many die from its effects? Those interested in this question will find it very ably handled by Dr. Graily Hewitt. *

He analyses 44 cases reported by Dr. R. Lee, and 133 by Mr. Salford, and the general conclusion he comes to is, "that the probable duration of a case of ovarian disease of progressive character is, in 85 to 90 per cent. of the cases, two or at most three years; of the apparently 'stationary' or chronic cases the prognosis is more favorable, but in such cases the disease is liable at any moment to start into fresh activity.

"The foregoing observations give some idea—an idea which cannot be very wide of the truth—as to the nature of the evil we have before us when a patient presents herself with ovarian dropsy. The first question we naturally put to ourselves with a case of the kind to decide upon is, Does this case belong to the fortunate series, the ten or fifteen in the 100, or is she one of the ninety who must die in the course of two or three years if unrelieved?"

Dr. Graily Hewitt prefers drawing his conclusions from such tables in preference to being influenced by records of isolated instances where the patient has lived twenty, thirty, or fifty years; but, independent of such extraordinary cases, I think these tables under-estimate the duration and frequency

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* *Diseases of Women*, 2nd edit., 1868, p. 607.

of the favorable class, from their not including a not inconsiderable number of cases which, from their causing little inconvenience, are only casually seen by the medical man, and the record of their history is thus overlooked.

Dr. Hewitt holds that when the disease is not of progressive character the question of ovariotomy is not to be considered. As showing the present aspect of the question, he mentions that since the first edition of his work, 1863, the successful results obtained by various operations has induced Dr. West, who had previously strongly disapproved of the operation, to withdraw his objection.

Dr. Hewitt thus concludes—" The decision for or against ovariotomy should be left to the patient or her friends; it is for them to take the responsibility. It is our duty, firstly, to make a diagnosis as accurately as possible, taking the whole circumstances, past and present, into consideration; secondly, to make, to the best of our ability, a prognosis of the case, and to lay before the patient and her friends the results arrived at, and, if it be possible to state the chances for or against her numerically, it is better to do so. For reasons which have been already sufficiently alluded to it is occasionally most difficult to put our prognosis into a numerical shape, but until we can do so a decision for or against ovariotomy cannot be come to satisfactorily. And the patient must be informed what are the probabilities of her life being saved by the different methods of treatment, ovariotomy, tapping, &c., respectively."

Appendix.—*Ovarian Cystic Tumour* treated by Dr. Miller with *Bromide of Potassium. Edin. Med. Journ.*, Nov., 1868, p. 404.

Mrs. S—, a widow, æt. 48, and the mother of seven children, enjoyed good health until August, 1866, when she complained of obscure symptoms of weight and oppression in the pelvic region with an evident loss of flesh, and general strength. On examination a small defined tuberous tumour was felt in the vicinity of the left ovary. This speedily enlarged, and by the month of November it could be felt in the left iliac fossa, but no fluctuation to be distinguished. At this period *Iodide of Potassium* was throught to have a good effect in retarding the growth of the tumour. Diuretics were freely given as well as gentle laxatives, but notwithstanding the tumour rapidly increased in size, so that by the end of January, 1867, it occupied part of the hypogastric and umbilical regions, extending as far also as the epigastrium, and fluctuation was now distinct.

On the night of the 1st February Dr. Miller was suddenly sent for, and found the patient in great distress from dyspnœa, the pulse weak and fluttering. He determined at once to tap the patient as the speediest means of affording relief. Eight ounces of a dark-coloured serous fluid were removed, affording speedy relief. The outline of the tumour also experienced considerable change, as no longer the two divisions could be defined, the lower vesicle of the cyst having evidently collapsed after the removal of the serous fluid, but the upper could still be distinguished in the left iliac fossa.

"About two days after the operation, however, the patient complained of severe pain in the region of the tumour of a very acute character, precluding the possibility of rest and sleep. She was, therefore, ordered a grain of *Opium* every six hours, which so far removed the severe pain as to allow her to obtain snatches of quiet and rest. The pain, however, did not disappear; and as the patient complained of considerable sickness, accompanied with vomiting, a consultation with Sir James Simpson was agreed on. He saw the patient first on the 6th of February, 1867, and after a careful examination of the abdomen and state of the patient, Sir James Simpson recommended the trial of the *Bromide of Potassium* in small doses, 5 grs. three times a day, with ice for the severe sickness and vomiting. Hot poultices, sprinkled with turpentine, were constantly applied to the left side, which was the seat of pain. Under the use of the *Bromide of Potassium* the pain gradually diminished, but with the absence of pain there seemed to be a tendency to a return in size of the tumour, as some fulness was evident on examination of the left side.

"Anticipating a return of the serous fluid, Sir James Simpson, the next time he saw the patient, on the 20th of February, recommended the dose of *Bromide of Potassium* to be doubled, which it accordingly was to 10 grs. three times a day, with beneficial results, as the tumour within a few weeks became palpably diminished in bulk. During this period the patient perspired very copiously, and passed a large quantity of dark-coloured urine.

"This improvement grudually went on during February and March, until in the beginning of April, when she was prostrated by an acute attack of gastritis, brought on by indulging in a glass of porter, a beverage so long forbidden that she could not resist the temptation with her returning strength to partake of it. Under the use of appropriate remedies the attack subsided, but became prolonged into a chronic condition due to her constitutional weakness, during which time she had to be supported principally on nourishing enemata. As the use of the *Bromide of Potassium* was during this attack of gastritis suspended, the tumour, which had been reduced to a very small compass, gradually resumed its former size and bulk, so that in the latter end of May she presented very similar symptoms to those she experienced in January—so much so that I was under the impression that it would be again necessary to tap her. However, I again consulted Sir James Simpson, who recommended the renewal of the *Bromide of Potassium* in larger doses than before, so that she now received 15 grs. three times a day with marked benefit; and not only so, she had less repugnance to the medicine than formerly, as she insisted that the nausea, of which she had reason to complain so much, was due to this medicine, and was therefore very unwilling to renew it; but with a larger dose she experienced none of the former sickening effects. I may here mention that a similar thing happened in another of my patients, who for nervous debility was ordered the *Bromide of Potassium,* and who under small doses took a great repugnance to the medicine; but on its being renewed in larger doses, she experienced none of the sickness and nausea with which she was previously troubled.

"Under the continuous use of the *Bromide of Potassium* the tumour gradually diminished in size; and, wishing to mark the process of the diminution, the patient was desired to measure the width of the abdomen on a level with the umbilicus, when, within three weeks, from the last week of May to the third week of June, the decrease was from forty-eight inches to thirty-three inches. At the same time her general health was greatly improved, and the extreme tenderness of the abdomen which followed the acute pain she suffered in the beginning of the year also entirely disappeared—so much so that she was able to sit up in bed, and bear the pressure of her stays. The difficulty in making as well as retaining her water entirely disappeared; and it was only on examination per rectum that a small excrescence on the left ovary could be felt—the shrivelled remains of the ovarian cysts. In the beginning of July the patient was able to leave her couch, and by the end of that month she was sufficiently strong to go out and undergo, without fatigue, a moderate amount of exercise. Within a short time afterwards she returned to her usual occupation and domestic duties, and since then has, with the exception of one or two attacks of bronchitis, enjoyed pretty good health. At present her health is not very robust, yet she is able to go about her usual avocations; and with the exception of now and then feeling a sense of weakness in the left side, no traces remain of her former complaint."

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# ON VEGETABLE CHARCOAL.

By Dr. Henry R. Madden.

In 1856 this journal published the following notice:—"*Carbo vegetabilis in Gastralgia.* A treatise on vegetable charcoal has recently been published. The author, Mr. J. Bird, advises the administration of this remedy in cases of gastralgia and other painful affections of the stomach. He details a number of cases, chiefly taken from the work of a

French physician on the same subject, to show the beneficial effects of vegetable charcoal in these affections. The kind of wood he recommends for making the charcoal is that of the poplar tree. Homœopathists have long been familiar with the use of *Carbo vegetabilis* in such cases. This, then, is another instance of the adoption of homœopathic remedies by our opponents."* Such was the opinion expressed at the time, and for some years I fully believed that it was correct; that is to say, I saw nothing in vegetable charcoal beyond a clumsy form of our well-known *Carb. v.*, and I credited our more elegant preparation with all the virtues attributed to the wood charcoal. By degrees, however, I began to suspect that the massive doses of charcoal administered by certain medical men had not only the effect of our *Carb. v.*, but something more. Of course there was its action as an absorbent of gases to be added to its purely medicinal virtues, but even after this allowance I met with cases wherein the full doses of charcoal produced effects which could not be explained in this manner. Up to this time I had entertained a prejudice against the use of the crude article, lest it should lead to accumulations in the intestines. It seemed to me possible that concretions might be produced similar to those which occasionally follow the use of *Magnesia* and other insoluble substances. I determined, therefore, to examine carefully the effects of wood charcoal on myself, and more especially as regarded its evacuation from the bowels. For this purpose I took two large heaped teaspoonfuls of charcoal, carefully mixed in a wineglassful of water, at bedtime, and examined the fæces discharged until they no longer showed any trace of blackness. I also examined from time to time the condition of my tongue and buccal membrane, on which some of the charcoal was always deposited when swallowing the dose. The conclusions arrived at are as follows:—1. Charcoal appears in the stools within eight hours of being swallowed. 2. It is never discharged in masses or nodules, but is always intimately blended with the fæces. 3. It causes a marked increase in the amount of mucus passed with the fæces, the mucus being perfectly black from entangled charcoal. 4. All traces of charcoal disappear from the stools in about thirty-six hours after taking a dose; and this is the case whether one single dose has been taken, or a continued daily dose for some weeks; in both instances the whole seems to be cleared off in about thirty-six hours. 5. On examining the tongue and interior of the mouth, I found that the fine powder was deposited upon the mucous membrane, and the water in which it had been suspended was speedily absorbed. In this condition it was at first difficult to scrape off completely, but it soon became loosened and entangled in the extra mucus secreted, and in this way was washed down the throat, and the mucous membrane left unusually clean. 6. The physiological effects I observed were a marked increase of tone in a naturally very weak stomach, an increase of appetite, or a return of appetite at shorter intervals, and a capacity for digesting certain articles which for many years had invariably caused acidity and flatulence.

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* Vol. xiv, p. 175.

From all these observations I am inclined to draw the following conclusions:—1. When finely powdered charcoal is taken carefully suspended in water, there need be no fear of any accumulation of the substance taking place in the intestines. 2. That the chief and most important action of vegetable charcoal is as *a detergent of the mucous membrane*, thus sweeping off the accumulated mucus which Dr. T. K. Chambers has so well pointed out as a most frequent cause of slow digestion. This it effects in the following way: the insoluble powder is deposited in and upon the mucus, and then, acting as a mechanical stimulant, it causes an increased flow of thin fluid, which being poured out between the membrane and the adherent mucus, dislodges it and washes it off. 3. The disinfectant properties and its capacity for absorbing gases also take part in the beneficial action of this substance. 4. The specific dynamic effect of such portions as have been sufficiently minutely subdivided to admit of absorption must be also added to the account.

Here, then, we have a threefold action, two of which and, in my opinion, the most important, are dependent upon the form in which the substance is taken.

Certain practical suggestions flow from this view of the subject; for example, we may expect better results when pure finely powdered charcoal is used and when it is taken on an empty stomach, than when charcoal is taken in the form of biscuits, &c. Again, in examining the effects of allopathic treatment by massive doses of any drug, it may be as well to inquire into all the various circumstances of its action, and not too hurriedly to conclude that the dynamic powers of the drug in question are the sole and only factors in the results obtained.

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## HIPPOPATHOLOGY AND PRACTICE: COUGH. By W. C. Lord, F.R.P.S. 1st Class Veterinary Surgeon; Cavalry Depôt, Canterbury.

*Introductory remarks.*—From letters which I have received from medical men, complaining of the difficulty which they experience in treating their horses homœopathically for "cough," and in some instances their being obliged to hand them over to an allopathic veterinary surgeon for treatment, I am led to believe that a practical article on the subject may not be uninteresting to the readers of the *British Journal of Homœopathy.*

Homœopathic writers generally prescribe for symptoms only, without due regard to the cause or seat of irritation of the cough—thus, we find "*Aconite* and *Arsenicum* for cough after drinking." "*Squilla* for cough after exertion." "*Lycopodium* when the horse yawns before coughing or after." "*Nux vomica* when it is dry, or when it returns every two days."

We cannot, therefore, wonder at the want of success frequently attending the "symptom covering" treatment of cough, which, to say the least of it, is unscientific; and in my hand has not proved very satisfactory, although more so than the allopathic system.

I have during the past three years paid particular attention to this subject. I have endeavoured to ascertain the pathology and diagnostic symptoms of the various kinds of cough, and then selected a drug whose physiological and local action (as reported by our best provers) most nearly corresponded with the pathologic state productive of the cough I wished to remove. Since adopting this method I have been able to cure coughs in two or three days that used to take me as many weeks when I commenced practising homœopathy.

*Classification of coughs.*—1st. Idiopathic, which seems to exist independent of any other disease, cough being the prominent and only symptoms.

2nd. Symptomatic when the cough depends on or accompanies other affections, such as bronchitis, catarrh, &c.

These may again be subdivided into acute and chronic cough.

The acute cough is of recent origin, is frequently symptomatic, and usually disappears with the disease to which it owes its origin.

The chronic cough is either a continuation of the acute for an indefinite period, or has been idiopathic from the commencement.

*Causes.*—These are, irritability or inflammation in some part of the mucous membrane lining the air-passages or lungs; nervous derangement, especially of the pneumogastric and ganglionic nervous system; dentition; organic changes in the thoracic viscera, or the passage of some foreign body into the respiratory tube.

*Diagnosis and pathology.*—To distinguish the seat of cough and its cause is a subject of the greatest importance to the scientific practitioner, who places more confidence in the pathologic state of his patient and the well-known local action of drugs than in mere symptom covering. I will therefore endeavour to explain (although a very difficult task) the diagnostic symptoms attending the various kinds of cough to which the horse is liable, and afterwards point out the homœopathic treatments which I have found most successful.

### 1. *The Cough from Dentition.*

This is loud, clear, and ringing; heard chiefly in the morning and at night; is met with in young horses, especially between four and five years old, when it seems to depend on nervous irritation produced by the canine teeth or tusks coming up. The mouth is hot, and the bars of the palate full, as in "lampas." The horse evinces a certain degree of tenderness in eating his corn, and takes longer about it than usual, yet his spirits are good and the general appearance healthy.

### 2. *The Pharyngeal Cough.*

It arises from irritation or inflammation of the pharynx, fauces, or neighbouring glands; is not clear and loud, but moist, heavy sounding, long, and as it were hanging in the throat. This cough may be short and dry at the commencement, but only remains so until the secretions return, which they soon do and in increased quantity.

### 3. *The Laryngeal Cough.*

This generally depends on irritation of the membrane lining the larynx, but sometimes on derangement of the recurrent nerve. It comes on in paroxysms, and is easily produced by compression on the top of the wind-pipe.

When caused by a dry state of the membrane this cough is short and dry, has a hard, ringing or metallic sound, immediately followed by a long harsh inspiration. When caused by derangement in the recurrent nerve, this cough is loud, dry, and spasmodic, and frequently chronic. As soon as the secretion returns to the membrane the cough becomes loose and less painful: instead of the cooing noise heard on applying the ear to the larynx in the primary or dry stage of the membrane a mucous rattle will now be heard. These sounds will help us materially in forming a correct diagnosis.

### 4. *The Tracheal Cough.*

If the secretion from the membrane lining the trachea be increased the cough will be prolonged and moist, sometimes followed by a thick white discharge from mouth or nose. In this case the ear applied to the trachea will hear the mucous rattle, and compression will cause the animal to cough. If on the contrary the membrane be dry so will the cough, and on applying the ear to the wind-pipe no moist rattling sound will be heard, as in the former case, but instead either a shrill cooing or base sound—according to the size of the tube from constriction or deposition of lymph, and the dry state of the membrane. I have cured a case of tracheal cough of long standing where the aperture in the lower part of the tube was so small that a whistling sound could be heard during respiration, and the cough was short, hacking, and feeble.

### 5. *The Bronchial Cough.*

This cough, at first short, hard, dry, and frequent, soon becomes muffled, moist, and prolonged, when the secretion returns. The absence of irritation in the upper part of the air-passages leads us to investigate the lower portion by auscultation, which alone can give a correct diagnosis. When the cough depends upon inflammation and dryness of the membrane lining the large bronchi the ear or stethoscope applied to the hollow in front of the chest detects a cooing sound or rhonchus; but should the small bronchi be similarly affected the ear applied to the sides of the thorax detects the dry or sibilant râles. As soon as the secretion returns and the cough becomes loose the mucous rattle will be heard with diminished and often suppressed respiratory murmur until the secretion becomes removed by a cough. These abnormal and suppressed natural sounds, however, belong to symptomatic rather than idiopathic bronchial cough, which is distinguished by negative rather than positive symptoms, such as absence of fever, sore throat, or any other catarrhal symptoms; compression on the larynx or trachea, such as will produce laryngeal and tracheal cough, has no effect on this cough which depends upon an irritable (not inflammatory) state of the bronchial membrane, and yields generally in two or three days to the homœopathic treatment, which I shall presently describe. The idiopathic bronchial cough is loud, dry, and comes on in fits or paroxysms at uncertain periods of the day, causing the animal considerable annoyance, but not interfering with the general health or appetite.

### 6. *The pulmonary cough.*

This is generally symptomatic of inflammation in the substance of the lung, or of some organic change, the result of previous inflammation. It is usually short, dry and frequent, accompanied in the former case by dyspnœa and increased by percussion. As the inflammation increases this cough becomes more constrained and painful, and ceases altogether. When inflammation is present in the parenchyma, auscultation detects the crepitant or other râles indicative of pneumonia. In chronic pulmonary cough, when organic change has taken place, it is usually indicated by absence of respiratory murmur in one or more circumscribed portions of the lung.

### 7. *The broken-winded cough.*

This cough, which usually betokens vesicular dilatation and interlobular emphysema, is always symptomatic of a morbid state of the nervous system, which it is necessary I should fully explain, in order that the treatment which has proved successful may become intelligible to the reader. The cough is generally at first spasmodic and paroxysmal, but soon becomes short, single, and so feeble that it can scarcely be heard at a few yards' distance. To diagnose this cough is very easy, for not only is it peculiar in character, but it is accompanied by dyspnœa, and a double expiration or supplementary effort performed by the abdominal muscles. This is attributed by nearly all foreign and British authors to an emphysematous state of the lung, requiring this supplementary expiration to expel the extravasated air from the tissue which they suppose has been ruptured. Several veterinary surgeons, however, declare that they have examined broken-winded horses in which there was no emphysema (D'Arboval, Rodet, Volpi, Professors Dick and Sewell). In those cases which I have examined I have found the lungs much paler, and not collapsed, as usual when exposed to atmospheric pressure.

I have also observed dilatation of the small bronchi and air-cells, as well as interlobular emphysema, but have not been able to trace the latter to rupture of the cell. By some, a thickening or other altered condition of its membrane lining the air passages has been observed, which has been put down by Laennec as the cause of the cough, and the latter as the cause of the dilatation and rupture of the air-cells, which he assumes does exist. The other pathological changes which have been (though rarely) seen, are atrophy of the heart, and lesion of the diaphragm. Dupuy, one of our best French authorities, first conceived the idea that it was a nervous affection, and said that he had produced symptoms somewhat similar by compression and section of the pneumogastric nerves; but our English authors, with very few exceptions, agree with Percival that "emphysema of the lungs is the true pathology of broken wind." Professor Gamgee, however, dissents from this doctrine in the following words—"In stating our opinion on the nature of broken wind, we unhesitatingly affirm that it is at first a purely nervous disorder, dependent on the condition of the digestive organs, and in which the pneumogastric nerve is especially involved. As the result of a cause which thus operates through the nervous system, dyspnœa ensues and organic lesions soon follow, and most frequently in the shape of pulmonary emphysema. All these theories are no doubt highly interesting, but in a curative point of view of little importance to the allopathic practitioner, whose treatment would be just the same whether the disease of which the cough is symptomatic consisted in emphysema, thickening of the membrane, dilatation of the air-cells or nervous derangement. It is, however, of the utmost importance to the homœopathic practitioner to ascertain the "fons et origo" of this cough which I shall now endeavour to explain.

In my opinion not only the cough but all the attending phenomena depend upon loss of power in the nerves furnished to the lungs by the anterior and posterior pulmonary plexuses; and on a similar derangement in the gastric branches of the par vagum must depend those symptoms of indigestion which are so frequent an accompaniment of the disease. This loss of power in the branches supplied by the pulmonary plexus, which are nearly all ganglionic, produces a degeneration and loss of power, not only in the muscular coat of the bronchial tubes, but also in the elastic tissue of the lung, upon a healthy state of which principally depends the act of expiration. In consequence of this want of elasticity in the pulmonary tissue the cells became unnaturally dilated, and this dilatation, or impurity of unchanged air produces the short single cough, rendered feeble by the loss of power in the phrenic nerves and in the muscular tissues clothing the respiratory tubes. As these are unstriped muscles it is clear that the ganglionic system is at fault, and to it, and not to the pneumogastric nerve (as taught by Professor Gamgee), must we turn our attention and apply our curative agents. This theory of loss of nerve power and elasticity will account for the double expiration, not only in those cases in which emphysema exists, but also in those cases in which no such lesion has taken place, for in both, the abdominal muscles are called on to assist by a supplementary effort the weakened pulmonary elastic tissue.

### 8. *The consumptive cough.*

This is very rarely met with in the horse, and may be diagnosed by absence of murmur in circumscribed spots or patches of one or both lungs, bronchial respiration, and cavernous or spumous râles. This cough denotes tubercles in the lungs which usually terminate in glanders.

### 9. *The chronic cough.*

This, so named from its lasting for months or years without appearing to injure the animal's health, may be an effect of previous disease in some part of the respiratory organs; or it may be idiopathic, when its origin must be ascribed to nervous derangement.

There are three kinds of chronic cough, namely:

1. The hollow, groaning cough.
2. The loud, dry, spasmodic cough.
3. The short, hacking, feeble, grunting cough.

*The first, or hollow cough,* which seems to come from the inmost recesses of the body, is preceded by a groan, or made up of half groan half cough. It comes on early in the morning or at night, and does not interfere with the general health for a very long time. Auscultation sometimes fails to detect the seat of this cough, when I conclude that it arises from some derangement in the pulmonary and gastric branches of the par vagum. More frequently, however, it depends upon consolidation of a portion of the lung, which may be diagnosed by the absence of murmur, aud dulness on percussion over the hepatised portion.

*The second, or spasmodic cough,* seems to me to depend upon some derangement in the recurrent nerve, or on an irritable state of the membrane lining the larynx. It is generally heard when the horse is eating, drinking, or first brought out of the stable.

*The third, or grunting cough,* is similar to the broken-winded one, but unattended by the jerking movement of the flanks or any emphysema. The pathology of this cough only differs from that of broken wind insomuch as the elasticity of the lung is concerned; for in this case the pulmonary tissue does not appear to be affected at first, although it eventually becomes so, and then the animal is broken-winded.

But the organic nervous system supplying the lining membrane and also the diaphragm is equally depressed, and as a natural consequence we find an alteration in the bronchial secretion, or some deposition of lymph in the air-passages, giving rise to a cough which is short, feeble, and devoid of resonance, *owing chiefly to loss of power in the phrenic nerves.* A strong forcible expiration or cough requires a sudden inspiration, which cannot well take place if the diaphragm is out of order. This has been confirmed by Girard and other veterinary surgeons, who observed a cough similar to the one under consideration in horses that they afterwards found had sustained a lesion of the diaphragm.

*Prognosis.*—This must depend on the nature, duration, and seat of cough. When no organic change has taken place, the cough, recent and idiopathic, we may expect to remove it in from two to six days with the appropriate homœopathic remedy.

In looking over my official returns for the year 1865, I find that then, when I treated cough and its symptoms only (according to the usual homœopathic formula), the average time occupied with each case of idiopathic cough (not including those that were chronic or dependent on any organic change) was 9·4 days. Since then, having been governed in my treatment solely by the anatomical basis of each cough, and the local action of drugs, I have reduced the average time of treatment for recent idiopathic coughs to 4·2 days. If I were asked to select a disease by which I could most easily demonstrate the great truth contained in the homœopathic doctrine and its vast superiority over allopathy, I would name cough, and on that ground decide which is the most certain as well as the most scientific mode of treatment.

(*To be continued.*)

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## AN INTRODUCTORY ADDRESS DELIVERED BEFORE THE BRITISH HOMŒOPATHIC SOCIETY,

By Dr. Vaughan-Hughes, one of the Medical Staff of the London Homœopathic Hospital.

### Winter Session, 1868-9.

Gentlemen,—It has struck me very forcibly that we are hardly doing justice to the cause and progress of Homœopathy by remaining silent at the commencement of another winter season. I cannot call it a winter session, I am sorry to say, because we cannot boast as yet of a regular Medical School, in connection with our system, wherein we can instruct and tutor the rising generation of would-be Homœopathic practitioners. Nevertheless, we are on the eve of being gathered together as members of the British Homœopathic Society, and to begin another winter's campaign of work. At such times our allopathic brethren are wont to usher in their annual labours with an introductory address at the various metropolitan hospitals and medical societies; and I cannot see any reason why we should not follow so good an example. If we have but few undergraduates to congratulate, encourage, and instruct, we can be addressed bodily as educated and qualified gentlemen, ever ready and anxious as the most zealous and industrious student might be to learn and improve ourselves yearly, and as the year comes round again and again to catch up with watchful attention the good and useful things which are gleanable from the experiences and studies of each other. We can be asked and induced to communicate freely, openly and liberally, the happy results which have rewarded our attentions and trials at the bed side of our patients; we can be appealed to as conscientious and Christian men practising a noble and divine calling to aid one another with kindly advice and support, when perplexities and difficulties overtake us in the practice of our profession; we can be supplicated to put aside petty jealousies, animosities, and personal aggrandisement, and those vain distinctions which spring from wealth, birth, or position, in order that we may the better meet in brotherly harmony and singleness of purpose in the wards of our hospitals, and at our monthly meetings. Our memories may be refreshed with the necessity which exists that we should hold well together in friendly and gentlemanly communion, as a small compact body surrounded by a greater, the members of which are ever ready to calumniate us and throw scorn on our system, and declare it a useless piece of humbug.

I am convinced that I cannot more pleasingly and profitably occupy the time we have in hand, than by reviewing the various addresses recently delivered at the metropolitan schools of medicine, discourses which have so graphically and learnedly reviewed the present stage and condition of allopathic medicine.

Let us begin with the old school of Bartholomew's and hear whether Mr. Thos. Smith, in his "Introductory," has anything new or encouraging to divulge respecting the art of healing. He says, "Medicine as a whole, as it comes to us in the present day, is not a science properly so called, though it presses into its service many sciences; it has none of the exact laws of true science, nor are its doctrines capable of demonstration. Medicine is an art—the art of healing. It is to be borne in mind that anatomy, physiology, and chemistry, are but *handmaids* to medicine, and are subservient to the great art of healing. This art, though broadly based on science, is mainly derived from empiricism—that is, observation and experience. The true artfulness of our profession consists in the skilful application to the cure of disease of all those means supplied to us, whether by science or empiricism." He advises the student to learn the uses of the laryngoscope, the stethoscope, and the ophthalmoscope: "which will quicken their powers of observation and enable them the better to understand the very alphabet of the language in which the body makes known its wants and disorders—the language in which you are hereafter to read the diseases of your patients, viz., the language of symptoms. Symptoms have been aptly termed the body's mother's tongue, in which it often cries aloud in disease and with no uncertain meaning to those familiar with the voice." I say this road to the knowledge of disease is very fluently indicated by Mr. Smith; but how about the treatment when the goal is reached? This very important duty he leaves to the future observation and experience of the incipient doctor. Nothing is advocated on this head of more certain application than empiricism, and as this is admitted to accomplish so little, the lecturer gravely recommends the students to aid its powers by a cheerful countenance, pleasant words, and a merry heart, "which is sweet to the soul and health to the bones." This being all the information we can glean at Bartholomew's we will pass on to Guy's and hear what Dr.

Moxon has to say. This lecturer asked the question, "How are we to study medicine? and further inquired Are there sciences of medicine and surgery?—if there were, they could not be compared to true sciences like mathematics and chemistry; the first being constructed of the elements of thought, and the second of the elements of nature, nor yet like zoology which is mere classification. We have no constructive knowledge of disease, we do not know how their elements are composed. The so-called science of medicine aims to be like zoology, but is disqualified because we cannot define disease. The practical result of these reflections is that medicine should not be studied in books as sciences are studied—learn diseases as facts in nature. No writer or speaker can describe a disease! As to medical progress there is no such thing as progress—we guess our way and call the guesses 'theories' to make them respectable. Beware of medical 'theories,' they are images made out of a little dust of facts with which some one breathes a little puff of himself—a breath of life that is not divine; they fall again to pieces when they have served their maker's purpose and are blown about the desert dust of medical literature. Do not guess—a guess is a squeak of reason oppressed by doubt. We live not to an aim, but to a duty of observation and guidance. The aim at cure spoils our social position. Those minds that are shaken by sickness and anxiety suppose that we can cure them, and we encourage the supposition, but when they come to themselves they change their view and give nature the credit and despise us as pretenders." After proceeding in this depressing, gloomy, and bewildering strain Dr. Moxon winds up his "Introductory" to his young medical audience with the consoling balm. "The public will not forsake you—it is not hope but fear that caters for the doctor. Let us patiently discharge our noble duty of observers and guides, striving to be to each individual sufferer under our care all that a man can be to his fellow-man in sickness and no more." Leaving Dr. Moxon and his low estimate of the powers of medicine over disease to make his own peace with his sick, we will pass on to King's College and see whether matters medical look more cheering in that school.

Dr. Guy gave a lecture on medical instruction past and present, and drew an amusing picture of the practice of physic 350 years ago, but coming down to modern times, he said, " Some pitch the word science so high that they will not allow medicine to be called a science—it is *not* exact enough, it is *not* accurate enough. Be the proper place of medicine among the sciences what it may, its right to the foremost place among the arts is not to be questioned—the art of healing practised in the light of all the sciences which enter into the medical curriculum—is one of which its votaries need not be ashamed." I say this may be flattering, but it cannot be very encouraging to find Drs. Guy and Moxon so much at variance in their arguments as to the value of medical science.

At the University College Mr. Erichsen speaks thus of practical medicine in his opening lecture:—" With respect to the treatment and the progress of diseases, it is difficult to trace the laws, so various and complex are the conditions surrounding and influencing them. The art of medicine, however, need not be wholly empirical, but too often we find ourselves in the region of uncertainty both as to the course which a disease will run, and the effect of remedies upon it. Here are found the great differences in opinion among medical men; some rejecting drugs altogether, and trusting to the process of nature alone. The uncertainty which still envelopes the subject must be taken as an indication of the inherent difficulties of the subject, and of the difficulty of deducing general laws from the mass of facts which lie in apparent disorder. *Much has been done in ascertaining the causes of diseases, and it is in this way, if in any, that the real value of remedies must be ascertained.*"

I will now ask you to follow me to the Middlesex Hospital, and cull what may be useful to us from a very interesting and instructing introductory by Dr. Saunderson. Though he touched upon all the new chemical and physiological discoveries up to the present time, he admitted that they failed to add one iota to the value of allopathic practical medicine. Though he made out medicine to be based on four subjects, viz.: vital physics, vital chemistry, descriptive anatomy, and pathology, yet he would urge these as studies undertaken for intellectual discipline rather than for any value as aids in the treatment of disease. "*Medical experience,*" he says, "is the knowledge on which the medical man exclusively depends in the treatment of disease, first, for finding out what is the matter with the patient, and secondly for determining on the proper treatment. The field of experience is of immense extent, so vast indeed that to explore it perfectly is far more than the work of a lifetime. *In the selection of remedies we are guided not by our knowledge of causes but of cases.* We choose those remedies which have been found most useful, *without occupying ourselves either with the theory of their action or the essential nature of the disease they are intended to remedy.* It is this indeed which constitutes the difference between ourselves and the homœopathists—not at all that we say *we disbelieve their principle or that we maintain the opposite one,* but that we refuse to adopt any remedy which cannot be proved to be useful, and has not the sanction of experience." The lecturer then went into the subject of "Medical Science" properly so called, and candidly confessed that it had done as yet very little for practical medicine, *our whole knowledge of which has been hitherto gained merely by experience.* "The discredit of *pathology as a science lies in this, that it has as yet done so little for practice.* It generally happens that the attempts of pathology to guide practice are failures." Indeed Dr. Saunderson affirms that *the failures of the sciences to assist practical medicine are so palpable that it is ready to exclaim, "Save me from my friends!"* "To attempt, therefore, the scientific treatment of diseases which science does not comprehend is as unreasonable as it is mischievous. To be guided in our selection of remedies by theoretical speculations is a most injudicious interference with the supremacy of experience, yet he believes this supremacy must some day give way and divide its sway with science. We cannot help feeling that in consequence of the amazing progress which vital physics, chemistry and physiology have made the last four years, and their bearing on pathology, great changes will take place in medical practice." Dr.

Saunderson ends by saying that "assuredly more honour is due to the empirical method than the scientific, for up to the present time practical medicine has been advanced by men not in the laboratory, but at the bedside and in the post-mortem theatre. Yet pathology will never supersede the natural and absolute necessity of *experience—the only thing* needful to the practitioner." Dr. Saunderson sums up with this short axiom, "Medical experience" consists *in the study of cases* and NOT in the study of diseases, and must be guarded, as Sydenham remarked 200 years ago, from what he then called the "*Medicine of philosophy,*" but which Dr. Gull recently, at Oxford, defined in these days "*as assaults on the side of science.*" Before we take our leave of these introductory lectures we will just drop in upon Sir Thomas Watson, and hear what he has got to say at his opening address to the members of the Clinical Society of London, a society whose seeds were sown this year, 1868. Sir Thomas Watson is justly looked up to as the patriarch of English medicine; many of us can recall the pleasure which the perusal of his "Lectures" gave us some twenty-five years ago. Now please to listen to a few extracts from his memorable speech, a speech which is characteristic of the boldness and courage of the man who feels that he must speak the truth and nothing but the truth, however unpalatable it may be to his listeners.

In commenting upon his experience of the power of drugs to cure disease, he says, "The greatest gap in the science of medicine is to be found in the stage of therapeutics. We have attained to a great degree of certainty in the detection of disease in the living body. We know tolerably what we have to deal with, but we do not know so well or anything like so well how to deal with it. We want to learn distinctly what is the action of drugs. Every one acknowledges it is only by controlling and directing the natural forces of the body, that we can reasonably hope to govern or guide its diseased action. To me it has been a life-long wonder how vaguely, how ignorantly, how rashly drugs are often prescribed; we try this, and not succeeding, try that, and baffled again we try something else, and it is fortunate if we do no harm in these our tryings. This random haphazard practice is both dangerous in itself and discreditable to medicine as a science. Our profession is continually floating on a sea of doubts about questions of the gravest importance. This uncertainty, this unseemly variation and instability of opinions, is a standing reproach to the calling we profess. It has shaken the faith of many men—men both able and thoughtful, and driven some to ask themselves whether any kind of medicine, other than the *vis medicatrix naturæ,* is of any real efficiency or value?

"No one doubts the efficacy of *Opium* and anæsthetics in blunting the sensibilities of the body and quelling pain, or the power of *Quinine* to stop malarious fevers, or of *Iodide of Potassium* to eliminate certain poisonous elements from the body, or the *rough* yet sanative effects of emetics and purgative drugs which are notorious to all. But there is a host of other known and reputed remedies about which our practical knowledge is very loose, imperfect, or even misleading. Concerning their peculiar virtue, we want sound and multiplied experience. The required knowledge must needs be gathered empirically and by many hands." Sir Thomas concludes by recommending a treatment by medicines prescribed with *singleness* and *simplicity* with a definite aim and object, or *no treatment at all,*—the collection of authentic reports of trials with medicine on the *healthy body* which might lead to the discovery of the laws by which our practice should be guided.

Thus, you will perceive this celebrated physician, baroneted for his skill and eminence, standing at the head of his profession and looking down from the pinnacle of honour, finds himself in a regular dilemma—a sort of medical remorse—coolly and candidly and seriously advises the members of this new Society, many of them old and learned men, to begin *de novo* with the study of drugs and practical medicine, somewhat on the same basis as that which Hahnemann worked upon so successfully years ago; yet there was not one man present courageous enough to admit that there was any truth in the laws he discovered, nor did any one suggest a trial of his system; no, they are merely told to go to their homes and make experiments like tyros with drugs on the healthy body with singleness and simplicity, and bring their reports or provings to be investigated and criticised by this new clinical congress. In criticising this wonderful and startling address, we may ask what good do we as homœopathic physicians derive from it? Must we say none? Well, morally speaking not so, for it is impossible not to feel a touch of sympathy and pity for these old-established and experienced practitioners who have been so openly and candidly told to confess their ignorance and weakness in the divine art of healing, and who are thus abruptly called upon to give up once for all their long-cherished opinions respecting that system which they have been so long taught to regard and venerate as the fundamental doctrine and practice whereby they flattered themselves that they were enabled to succour and relieve suffering humanity.

The *Lancet,* in commending these addresses to the medical students, makes this remark—"*Medicine is becoming an increasingly difficult profession.*"

In criticising these extracts we cannot fail to perceive the conflictions, the contradictions and the confusion in the statements and opinions of these eminent allopaths with regard to the practice of physic. On the one hand, we find Mr. Thomas Smith at St. Bartholomew's stating that diseases are known by their symptoms, but can offer nothing more certain for their removal than that which is based on empiricism—by that experience which is to be picked up at the bedside by each individual student in after life. That the sciences will only aid the practitioner by enlarging his mind and thus render him a better observer. On the other hand we find Dr. Moxon at Guy's declaring that medicine is not, and cannot be studied as a science, and cannot even be taught. He says:

"*The medical theories are so many guesses, and the guesses are squeaks of reason oppressed by doubt.*" That we deceive our patients by leading them to suppose that we can cure them, who when they get well find out their mistake, give to Nature the credit, and despise us as pretenders. In this fix Dr. Moxon affirms our only duty to the sick to be one of observation and guidance.

Again, at King's College, Dr. Guy, failing to make out *Medicine* to be a science, says it is "*an art which should be practised in the light of* ALL *the sciences*," which is very grandiloquent language for an assertion so mystifying,—for he leaves the student entirely in the dark as to the principles upon which to base his practice. I have just told you that Dr. Moxon flatly contradicts Dr. Guy by stating that the sciences are of *no direct* use in the practice of medicine.

Further, Mr. Erichsen, at University College, declares that the medical art is so puzzling to some men that they reject drugs altogether, and trust to nature. That the whole subject is enveloped in uncertainty from the difficulty of deducing general laws from the mass of facts which are in such disorder. That the *only way* of ascertaining the value of a remedy is to ascertain the *cause* of disease, while Dr. Saunderson at the Middlesex Hospital contradicts Mr. Erichsen point-blank by asserting as his creed that *it is useless to study the "causes of diseases, that our only help in choosing a remedy"* is to be found in the "*study of cases.*" Hence Sir Thomas Watson may well exclaim before the Clinical Society how vaguely, how rashly, how ignorantly drugs are often prescribed, that the practice is haphazard, random, and dangerous—continually fluctuating on a sea of doubt, and discreditable to medicine as a science, and driving men to the conclusion that there is no real value or efficiency in drugs.

In this candid and public declaration of the lamentable weakness of allopathy we may, without flattering *our* system, see the greater strength of homœopathy.

I am sorry to appear unsociable by criticising the sayings of my opposite neighbour, the Medical Society of London, but Dr. Richardson, its president, has communicated such a shock, even to some of his own admirers, by the advocacy of a return to the use of the lancet as a remedy for the cure of disease, that it would be unjust to remain silent. The veterans present were enraptured at the return of that system of bleeding which was the joy and pride of their youth. While the younger members became so rabid on the subject, that even the editors of the *Lancet* condemned the arguments, "which were literally a deluge let loose and would have suited the pre-Harveian ages, one respected orator upholding the amazing doctrine that, *in many diseases, part of the blood is pure and part impure; and that by venesection we can abstract the bad, and leave the good behind.*" Though the *Lancet* protests against such views as contrary to common sense and science, in the same page it vents its spleen on Homœopathy as an absurdity and unworthy of credit.

It is very sad and very alarming to find a first-rate physiologist pleading for venesection in these days of enlightenment. Nothing could be suggested so disastrous to the success of allopathy, and so beneficial to the progress of homœopathy as bloodletting.

None can feel the full force of these confessions of feebleness on the part of allopathic medicine more keenly and more humiliating than the man who, like myself, has practised that method for several years in hospital and private practice, and who subsequently has been compelled to come over to Homœopathy, through conviction based on a fair and careful trial of its principles, and has been obliged in consequence to sever all his old professional friendships. But again (looking at the other and brighter side of the picture), none can experience more acutely the refreshing and conscientious comfort and peace *derived* from that *harbour of confidence* which he has reached, and in which he finds the longer he practises, the stronger becomes his sense and appreciation of that truth which is based on the dogma and expressed by the words, *similia similibus curantur.* And now allow me to conclude with one more sentence, and one very beautiful and happy idea—I will even call it prophetic which *each* returning year does and will bring nearer to its fulfilment—namely, *that homœopathy has now reached that high degree of purity and success as to justify us in regarding it as the High Catholicism of Medicine.*

# THE TRUE PLACE OF SPECIFICS IN PHARMACODYNAMICS.

By Dr. Drysdale.

The word "specific" has been used in two distinct senses corresponding to the actions of medicines on the body in health and disease. The former, viz. the physiological action, is produced by the particular properties inherent in each medicine acting on the special susceptibilities inherent in the organism; it is, therefore, incapable of explanation, and requires none. In illustration let us adduce the following facts. If the fauces are tickled with a feather, vomiting is produced; the same effect may follow the contact of a mere irritant with the coats of the stomach; also diarrhœa may be produced by the contact of mere irritant foreign bodies with the mucous coat of the intestine; a particle of dust in the eye will cause redness and even inflammation. None of these show any specific relation between the agent and the part affected. But let *Tartar emetic* or *Ipecacuanha* be injected into the cellular tissue at however remote a point, though no local action be apparent, yet vomiting will be induced. This is justly attributed to the specific influence of these substances on the specific irritability of the stomach or its nerves; and hence they are called specific emetics in contradistinction to the mere local irritants above alluded to. In like manner when *Arsenic* is taken inwardly for some time, it often produces inflammation of the conjunctiva. In this case it would be called a specific eye-irritant, in contradistinction to the particle of dust as a common irritant. We have seen that all organs or parts of the system possess an irritability, special or peculiar to themselves, in which the external agents we call poisons and medicines act; and that this specificity of irritability extends not only to all organs and parts which have a distinctly recognised function, but also to the tissues of which these are composed, both in their local and general aspect. Thus, the skin, the mucous and serous membranes, the fibrous and muscular tisssues, &c., have all certain qualities common to their particular tissue wherever it is found, whilst, at the same time, in every different locality to which a tissue is distributed, it acquires some qualities peculiar to its position. This we see in the varieties of disease affecting different localities of the same tissue as the skin, the intestinal mucous membrane, &c. Moreover, in any organ composed as it is of a multiplicity of elementary tissues, each of these must be presumed to be possessed of its specific irritability, and therefore capable of being affected by its specific stimuli more or less independently of the rest. Likewise within a tissue, such as the nervous, which subserves such a variety of important functions, each department possesses a peculiar susceptibility which responds to special stimuli. This principle extends not only to the larger divisions, such as the brain contrasted with the spinal cord, or both together with the ganglionic system, but even to the minutest branches which have an independent or special destination. Thus *Hyoscyamus*, *Stramonium* and *Opium* act chiefly on the hemispheres, while *Strychnia* may confine its action to the spinal cord. Again, *Chloroform* and other anæsthetics may have their action restricted to the sensiferous, while the same is said of *Curari* in respect to the motiferous nerves. Other substances act on the cerebro-spinal filaments contributed to the ganglionic system, as when the alkaloid *Conia* acts upon those contributed to the cardiac plexus, while probably a yet different series of medicines act on the ganglionic system proper. Even within the same class of nerves local distribution exerts a specialising influence. Among the sensiferous nerves, the facial and the sciatic are affected by different exciting causes of disease and different remedies. Nay, even in the branch of any nerve itself, disease may affect principally, if not entirely, one of the component tissues, neurilemma, white substance, or axis cylinder.

A similar analysis of the different susceptibilities may be made of the other great tissues.

But even beyond this, specificity of irritability must be ultimately traced back to the cells and protoplasm through which these elementary tissues themselves are originally formed and continually renewed. In the stomach, for example, different agents act more or less distinctively upon the mucous membrane, the muscular coat, the glands, the nerves, the capillaries, and other elementary component parts of this organ. In the eye we have one medicine adapted to the longitudinal, and another to the circular fibres of the iris, expanding or contracting it—such as *Belladonna* and *Calabar bean;* while yet another, such as *Mercury,* acts on the nutrition of that part, producing inflammation. Other substances act on the retina producing impaired vision generally, while still others seem to single out one function of the nervous expansion, as when *Santonine* extinguishes the capacity of seeing the violet ray, and objects appear yellow.

Furthermore, this specificity of irritability extends to quality, character, or kind of action, as well as to specificity of seat. How great the varieties in this respect may be it is impossible to predicate. And it is quite possible, nay, even probable, that of all the numerous agents which have in common the property of acting on any particular organ or part, no two may act exactly alike.

To multiply illustration is superfluous; not that there is any lack of material, but, on the contrary, because it is superabundant, and any of the innumerable common facts of the Materia Medica might be adduced with equal propriety in place of the above instances.

These remarks will perhaps convey a sufficiently clear idea of what is meant by physiological specificity in its whole extent, and of that part of it constituting specificity of seat, and which is usually spoken of as vital elective affinity.

We are thus expansive upon this subject, because it is indispensably necessary that we should ever keep in mind the extent and variety of physiological specificity, and that, when duly considered, it will be seen to afford a sufficient basis for the explanation of all therapeutic specificity if we can only find the link between the two. At the outset we must put aside as futile all attempts at explanation of physiological specificity, and disclaim all sympathy with those who express wonder and surprise that medicines should possess such powers of discriminative action. It should be no more surprising than that the substances with which we are surrounded should display the inherent properties which distinguish them, such as hardness, colour, taste, smell, weight, &c.

The second sense in which the word "specific" is used is that which denotes a particular action of medicines in the cure of disease, *i.e.* therapeutic specificity. The common action of a "specific" in this sense is that it is a remedy which has the power of directly curing a disease without possessing any corresponding power over the healthy body. Some attach also to the word the idea that its power must be unfailing, and others, that it must be the sole remedy for the particular disease to which it is said to be specific.*

No systematic writer or scientific thinker is willing to admit the existence of such a class among remedial agents. No doubt, from the earliest times it has been known from empirical observation that certain medicines were good against certain diseases; and probably this much is all that was known of medicinal action in general. Since then the whole progress of medical science as applied to the Materia Medica may be described as an unceasing endeavour to explain those curative actions by referring them to the known or still-to-be-discovered effects of drugs upon the healthy body; we may here quote from two of the best works on Materia Medica.

> "Strictly speaking, therefore, there are no substances to which the term *specifics* can be properly applied. Yet it cannot be denied that there are many medicines which are particularly appropriated to the cure of certain diseases, or to the relief of particular symptoms; experience having shown that they more frequently give relief than other agents. As examples I may refer to the use of *Mercury* in syphilis, *Disulphate of Quina* in ague, *Arsenious acid* in lepra, and *Hydrocyanic acid* in vomiting and gastrodynia. Moreover, I cannot admit that any satisfactory explanation has yet been

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* Headland admits the existence of "specific medicines, *i.e.* of remedies which are of particular or special use in one or more disorders." But he objects to the use of the word "when it is misapplied to express the idea of some particular medicine being the only one that can be used in a certain disorder."—*On the Action of Medicine*, 1852, p. 153.

given of the *modus medendi* of many of these agents. The relief in constipation by the use of *Senna,* and in pain by that of *Opium,* is explicable by reference to the known physiological effects of these substances. But the benefit procured in venereal diseases by *Mercury,* in ague by *Disulphate of Quina,* &c., cannot be accounted for by reference to any known physiological effects which these substances produce, and our use of them, therefore, is at present empirical. It cannot, however, be doubted that had we a more intimate acquaintance with, and precise knowledge of, the action of remedies, the therapeutical properties of medicines would no longer appear incomprehensible and mysterious."—*Pereira,* I, p. 153.

"The power possessed by *Cinchona* of suspending or completely stopping periodical diseases . . . . is doubtless in some way related to the before-mentioned effects; but the connection is as yet mysterious and incomprehensible."—*Pereira,* I, p. 69.

"As in these complaints (intermittents) it is probable that in the intervals a train of morbid actions is going on out of our sight within the recesses of the nervous system; so it is also probable that *Bark* produces in the same system an action equally mysterious, which supersedes that of the malady, and thus accomplishes the restoration of the patient."—*Wood and Bache,* p. 252.

Trousseau and Pidoux have entered into this subject frequently and fully in several of the chapters on general therapeutic principles, and the tenor of their remarks is always to the same effect as the above; but the allusions are too much involved in the general reasoning to be given here in a detached form.

We see here a distinct expression of the belief that specifics are curative in virtue of some action on the healthy body, though that as yet may be unknown, and also the hope implied that ultimately that action will be discovered, and specifics in the above sense, as a class, cease to exist. In order to see how far this hope is justified, let us take a compendious survey of the progress that has been made in referring the known curative effects of particular drugs to all their possible actions on the healthy body, whether physical, chemical, or vital. We shall do this most effectually by following out more in detail the plan begun in a former paper, viz., that of contrasting the operation of a specific with all the possible physiological actions of medicines to which it might be or has actually been referred, and illustrate this by a detailed analysis of the theories of the action of one medicine, viz., as before said, *Cinchona.*

This amounts to much the same thing as the definition of a specific by exclusion, after the method sanctioned expressly by Sydenham, and virtually by the above authors. In the paragraph formerly quoted from Sydenham,* "Medicines that specifically answer to the indications of treatment, and medicines that specifically cure diseases are as wide as the poles asunder. In the first case we satisfy the curative indications and drive away the ailment; in the second, we take no cognisance of the indication or intention at all, whilst we destroy the disease directly and immediately. For instance, *Mercury* and *Sarsaparilla* are commonly called specifics in syphilis; nevertheless they are no proper and direct specifics at all, nor will they be considered as such until it be shown by cogent and irrefragable proofs that the one produces its beneficial effects without salivation, and the other without diaphoresis."

Here Sydenham plainly recognises physiological specificity in that *Mercury* and *Sarsaparilla* "specifically answer to the indication" when they produce their respective evacuations; likewise, that if they cure the disease by so doing, they are not acting as therapeutic specifics, for, he adds, "it is the evacuation that performs the cure, the medicine being specific to the evacuation. To the disease itself, self-sufficiently and directly, they are no more specific than a lancet is specific to a pleurisy." Sydenham likewise here admits that if subsequent experiment should show a method of curing syphilis by *Mercury* or *Sarsaparilla* without the intervention of any evacuation, he would give up the eliminant theory of their action, and they would be again thrown back into the class of specifics. Now experience has shown this, and with respect to *Mercury* it has been abundantly demonstrated by the simple expedient of diminishing the dose and shortening the length of time of its administration, that it cures syphilis without salivation or other evacuation. As far as evacuation goes, therefore, *Mercury* is still a specific in this disease, and must remain so until its action can be referred to some other physiological effect. Now Sydenham still believed in the *materies morbi* and the eliminant theory in respect to syphilis and a great many other diseases, and that, in the above instance, the evacuation was curative by its eliminant function. Whether this be true or no it is evident the above reasoning applies to all the other modes in which evacuants may be serviceable, and that by the simple method of diminishing the dose we have an infallible test of the real nature of the cures attributed to any medicine in its capacity as an evacuant. And it is obvious that the same test may be applied to all the other palpable physiological actions belonging to what we have called the absolute class, such as astringents, derivatives, counter-irritants, revulsives; or among the neurotic class, narcotics, sedatives, tonics, stimulants, anæsthetics, &c. We have seen that even a man like Sydenham was completely misled in attributing the curative action of *Mercury* to a merely collateral and incidental effect, and we should not, therefore, receive with incredulity or surprise the suggestion that, even at the present day, the great majority of practitioners may be under erroneous impressions as to the real nature of the curative action of most of the medicines they use daily. The sphere of action of most of the powerful medicines is wide, and the complications which arise during their operation are extremely numerous; hence the difficulty of tracing the real course of action in any cure by their means. Even with the simplest medicine capable of producing a physiological effect, such as evacuation, there are three things possible when a cure is effected. First, it may purge and do good by any of the modes in which evacuants are serviceable, such as restoring a natural secretion, depleting the body, promoting absorption of abnormal secretions, lessening abnormal secretions in other organs, acting as revulsives or derivatives. Second, it may do good by a direct action on the disease and merely purge incidentally. Third, if given in smaller doses it may simply cure directly without any evacuation at all.

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* Sydenham Society Edition, vol. i, p. 21; also quoted by me in vol. xxv of this Journal, p. 435.

Now even in those instances in which evacuation is produced, the records of general medicine furnish us with numerous instances wherein experience has led good practitioners to doubt how far the evacuation has been the cause of, or connected with, the curative action. For example, purgatives have been extolled in the treatment of mania, but of these the *White Hellebore* has been credited with a special virtue above the rest of the class. Another well-known purgative, *Colocynth*, has been found useful in many chronic diseases, such as gout, rheumatism, and neuralgia in a manner and degree quite special and not to be accounted for on its mere purgative properties, and therefore cannot be replaced indifferently by another purgative. The same remark may be extended to almost every other medicine of this class, more especially *Aloes, Glauber's Salts, Sulphate of Magnesia, Rhubarb, Calomel, Podophyllum, &c.* Among the expectorants it is well known that *Ipec., Squills, Tartar Emetic*, and *Ammoniacum, &c.*, cannot be used indifferently in place of each other, but each possesses peculiar powers known by experience alone to good practitioners. The same observation applies also to diaphoretics, among which it is well known that *James' Powder* possesses powers in catarrhal fever not shared indifferently among all diaphoretics. In this manner we may go through the entire list of evacuants, in respect to their depletive and eliminative, as well as to their derivative and revulsive operation. If to these examples of specific powers not explained by evacuant action derived from allopathic experience, we add those furnished by the homœopathic school, the evidence of the inability of mere evacuant operation to account for the therapeutic specificity of individual medicines becomes conclusive.

Thus, wherever a medicine in ordinary practice has exhibited a really specific action while attended with an evacuation to which it was erroneously attributed, a parallel instance can be found in the records of homœopathic practice, in which the cure was effected by a dose incapable of producing evacuation or any other manifest physiological effect. In like manner we might go through the other classes of medicines, viz., counter-irritants, astringents, tonics, stimulants, narcotics, anæsthetics, sedatives, hyposthenisants, comprising the remaining vital actions of medicines on the solids, and demonstrate their insufficiency to account for therapeutic specificity. In fact this will be readily granted, but there remains a class respecting which there exists more ambiguity, viz., the alteratives and hæmatics. It is here that theorists now at last hope to find the long-desired explanation of therapeutic specificity. This is unfortunate, as the department of physiology relating to the blood-formation is still enveloped in great obscurity ; it augurs ill for an argument to be in this position, for the strength of all false hypotheses has always lain in ignorance or in partial acquaintance with the facts. The subject of the blood-changes induced by medicinal or morbific influences as a whole, is far too extensive to be gone into here, so I will confine myself as far as possible to a summary of the chief points bearing on specificity. To begin with, let us consider the influence of chemical agencies. Putting aside endosmosis as having obviously no bearing on specificity, we proceed at once to the acids and alkalies, which are placed by Pereira in the order " spanæmics."

> "The acids are absorbed into the blood and are thrown out of the system by the excreting organs, especially the kidneys, the secretions of which they render preternaturally acid. But during their passage through the system they are in combination, and have their acid properties neutralised: for the blood does not lose its alkaline properties by transmitting them."—*Pereira,* I, p. 94.

It is therefore by their indirect effects that they exert their influence; they alter and injure the mucous and the albuminous fluids in the primæ viæ, they likewise injure the gastric juice, though itself an acid secretion, but more particularly the saliva, bile, and pancreatic juice which are naturally alkaline, inasmuch as they abstract the alkaline and earthy bases of these secretions, and ultimately to that extent injure or spoil the blood. If long persevered in they deeply injure the assimilative processes and develop a kind of scorbutic cachexia. Alkalies, on the other hand, are equally, if not more injurious; for although in the normal state a certain degree of alkalinity of the blood is necessary for endosmosis, oxidation, and secretion, yet that must not be exceeded, for though the saliva, pancreatic juice and bile are alkaline, the urine, sweat and gastric juice are acid. If, therefore, by alkaline medicines we derange the natural degree of alkalinity or acidity of these secretions the result is an impairment of digestion, respiration, and ultimately of the whole nutrition and blood-formation. Hence ensue a deplorable state of cachexia and emaciation as is seen after abuse of such medicines and of alkaline mineral waters, such as Vichy and Carlsbad. It appears then that acids, as such, can have no direct effect upon the blood, and therefore all the theories founded upon observations of their action upon this fluid out of the body must fall to the ground.

> "From the preceding remarks it may be inferred that the precise changes effected in the blood by the internal administration of the acids are very obscure; nay, the very action of these bodies on the circulating fluid is rather assumed than demonstrated. The statements of authors as to the changes in the physical and chemical properties of the blood, produced by the administration of acids, are, therefore, for the most part, hypothetical, as are also the pathological and therapeutical deductions therefrom. Several of them, indeed, are founded on erroneous premises."—*Pereira,* I, p. 172.

Their action as acids is thus indirect, and may be described as spoliative simply. Any other action as individuals that they may exhibit belongs to the vital or dynamic category. In like manner, it may be shown that alkalies as such act as spoliatives. Thus, the action of these two great classes of chemical agencies is reduced to that of simple spoliation, or withdrawing from the blood certain elements which require to be present in due proportion for its integrity as healthy pabulum; they are thereby brought into the category of depletives and evacuants, including all exhausting losses of natural fluids, suppurations, &c. Now mere depletives and spoliatives act also as alteratives in one sense, and indeed Trousseau puts bloodletting at the head of the alteratives. He says "it is not only spoliative to the vessels and tissues, but also changes the composition of the blood" (T. and P. i, 353). Sudden loss of blood, we know, rapidly diminishes the proportion of crassamentum to water; after three bleedings in one day, Lecann found the proportion of crassamentum sunk from 140 per 1000 to 76. The cause of this is the rapid absorption of serous and watery fluids into the vessels, which thus rapidly diminishes the relative amount of red particles.* All chemical spoliatives have thus an indirect effect in diminishing the mass and altering the crasis of the blood, and so exercise a powerful influence on the system both in health and disease. This, however, is not of a definite or specific character, but must be arranged in common with such agents as bad or insufficient food, and other conditions which produce deficiency and deterioration of blood as nutrient pabulum. To this may be referred the action of the medicines under consideration in counteracting plethora and all the disorders depending on it. Whether they are desirable means of accomplishing this object is another question, but there is no doubt that while in operation, if only pushed far enough, they must have that effect. To this is probably due the influence of long continued administration of alkaline, saline and acid medicines in large dose in eruptions of the skin, congestions of the head and liver, obesity, general plethora, &c. In these cases there is no specific influence at work, nor are the diseases cured, but return again when the spoliative influence is withdrawn, unless, indeed the blood-forming powers have been injured beyond recovery by the medication. In this category may also be placed some of the effects of the dynamic alteratives, such as *Mercury*, *Arsenic*, *Copper*, *Iodine* and others, which, when given to the extent of producing their spoliative action may for the time being counteract a variety of morbid states to which they have no specific relation, whether physiological or therapeutical. Nay, even the narcotics and stimulants, and other medicines not usually supposed to have any effect upon the blood, if given in excess and for a long continuance, will fall into this category, for by the interruption to the digestion which they cause, they indirectly become spoliative, and thus give rise to a number of effects to which they have no specific curative relation. Who could attribute to the specific action of alcohol on the nervous system alone the innumerable train of evils induced by habitual drunkenness, when we consider the profound derangement of the digestion and other functions brought on by the irregular habits of the victims of this pernicious vice? In the same category may be placed the ultimate effects on the system of the abuse of all medicinal or even semi-dietetic agents; in the end they all alter the crasis of the blood as mere spoliatives. For this reason, doubtless, Hahnemann attributes little or no specific import to that series of symptoms he terms "reliquiæ," and which we have called "after effects." This suggests a caution to the homœopathic school, for we cannot accept the long train of symptoms and morbid changes consequent on protracted abuse of powerful medicines, pushed to spoliation, as a true picture of the primary dynamic symptoms fit for guidance in homœopathic treatment. On the other hand, in the allopathic school, curative results are frequently attributed quite erroneously to the presumed spoliative action of various chemical and some dynamic medicines, such as the acids, the alkalies, various neutral salts, such as *Nitrate of potash, Acetate of ammonia,* &c., and amongst the dynamic agents, *Mercury, Iodine, Acetate of lead,* &c. Few have calculated the large doses necessary to produce an effect in this way, and still fewer have ventured to give them. It must be remembered that within the limits of physiological oscillation there is a considerable margin which allows of the blood parting with a portion of its substance to combine with and conduct through the circulation and out of the body, notable quantities of medicinal agents without suffering perceptible spoliation, and thus giving rise to disease. It is probable that a great number of those medicines in ordinary use are in this position, and their curative action, which was originally derived from empirical observation alone, is really due to their insensible and specific operation, and not to the primary physiological or chemical action, as ordinarily assumed. This could also be proved in the same manner as was formerly suggested under evacuants, viz., adducing parallel examples of cures with doses far too small to fulfil any one of the presumed indications.

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* Sharpey in Quain, 1867, p. xxxvii.

Spoliatives having, then, failed to supply the explanation of specific action, authors are next driven to alteratives of a more special character.

> "Alteratives change the natural constitution of the blood and humors; they render them less fit for the process of nutrition, and for furnishing the elements necessary for the process of acute and chronic inflammations; perhaps, also, they act in rendering impossible the generation of accidental epigenetic products."—*Trousseau and Pidoux*, i, p. 352.

This last clause suggests something definite. We know from Rokitansky that a number of different morbid states agree in producing an increased venosity of the blood, which, as long as it subsists, renders it unfit as pabulum for the tuberculous perversion of nutrition. We can suppose that or other states of the blood producible by medicine, thus rendering it unsuitable in addition for the development of other diseases, such as cancer, inflammation, gout, rheumatism, &c. Should such agents ever be discovered, it must be admitted that as long as they maintained their action with sufficient completeness, we could counteract a definite state of disease by a definite alterative process. This, however, would constitute merely physiological specificity, and would have no claim to the title of therapeutic specific action; for the morbid tendency would not be cured, but merely held in abeyance as long as the abnormal influence of the medicine lasted. It is not even pretended that in the majority of instances such medicines have been found, but, as respects inflammation, some notion of the kind seems to be at the bottom of the theory of antiphlogistic action. For example, the supposed resolvent and liquefacient action of *Mercury* and *Nitrate of Potash* have been referred to their producing a special state of the blood incompatible with the inflammatory process. But this has been disproved by common observation with respect to

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*Mercury*, and in fact has never met with any but the most limited acceptance, because it is well known that various inflammations yield to *Mercury* in doses, and in a space of time quite insufficient to produce any such liquefaction. And with respect to *Nitre*, it was found by Jörg, who really did try its effect upon the healthy body, actually to produce inflammatory fever and local inflammations; in consequence of which he seriously warned the profession against its use in those states. It is, therefore, plain that in the category of alteratives producing any special form of alteration hitherto defined, medicines do not cure by the production of their physiological action. There remains now for consideration those alteratives supposed to operate on the blood and directly counteract the disease. "The disease," says Headland,* "is in the blood, ever circulating, breeding and destroying. It is there it must be met; let the physician strike boldly and warily there if he would effect a cure." (P. 96.) And again, "when the *modus operandi* of a medicine is obscure, but when it is apparent that it has the power of counteracting a disease, I have preferred to place it among catalytics." (P. 145.) Further on he remarks that catalytics act on the blood "so as to counteract a morbid material or process, and must pass out of the body." (P. 146.) Blood disease and catalysis! Here we are launched on the boundless ocean of the vague; blood disease has been from time immemorial a cherished doctrine deeply implanted in the mind of the vulgar, and hence it is the stronghold of the nostrum-monger. And as for catalysis, the importation of that theory into physiology has had an unfortunate effect, as indeed we might expect, for the assumption of a power capable of setting agoing an indefinite series of changes, without itself taking any adequate part therein, must be fatal to all philosophical reasoning. In fact it is little better than that old "Deus ex machinâ," the vital principle, over again.

It will be well to reconsider the foundation of the theory of blood disease. Disease implies life; but in what way can life be predicated of the blood? Looked upon as a whole it is impossible to conceive vitality to reside in a mere diffluent liquid. This has been demonstrated conclusively in Dr. Fletcher's 'Physiology,' chap. iii, part 2. And it may be safely stated that no modern physiologist admits the existence of organized matter possessing vitality in any but the solid form, though that may be of an extremely soft or pulpy consistence, such as the protoplasm. Nevertheless some of the contents of the blood-vessels do exhibit vital phenomena, and the seeming contradiction may be explained by showing that it is a non-vital liquid containing living particles. It is, therefore, to changes in the latter alone that the term disease can with propriety be applied. The mass of the blood is in a state of incessant change, portions of it being constantly expended in nutrition and secretion, and their place supplied by additions from without. These changes correspond to the changes going on between it and the solids. Therefore any change in it, or the plasma at least, by vital or dynamic agents, can be accounted for by their action on the solids. There is thus no room for the supposition of a disease propagating itself or "breeding in the blood." "My cellulo-pathological views," says Virchow, "differ from the humoro-pathological ones essentially in this, that I do not regard the blood as a permanent tissue, in itself independent, regenerating and propagating itself out of itself, but as in a state of constant dependence upon other parts."* Therefore, no permanent change in the blood can be maintained without a correspondingly permanent change in the solids. Again, let us hear Virchow, "*Every dyscrasia is dependent upon a permanent supply of noxious ingredients from certain sources.*" (P. 131.) And again, "Not that I doubt at all that a change in the composition of the blood may pertinaciously continue, or that it may propagate itself from generation to generation, but I do not believe that it can be propagated *in the blood itself*, and there persist, and that the blood is the real seat of the dyscrasia." (P. 130.) Moreover, not only is the possibility of any vital change in the blood, *per se*, taking place denied, but the most recent physiologists are disposed to extend the same impossibility to chemical changes as well.

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* *On the Action of Medicines*, 1852.

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* *Cellular Path.*, p. 130.

L. Hermann says:

> "Further, we know as good as *nothing* on the question *whether within the blood itself* chemical changes of constituents take place."*

In proof of this he adduces the fact "that oxidation does not take place in the blood, for when blood is once free from *Carbonic Acid,* however much it may be afterwards charged with oxygen, no further *Carbonic Acid* can be obtained from it. On the other hand, it is usually assumed that the fibrogenous substance is formed either in the blood or the lymph from other albuminous bodies, but this is by no means an established fact, because it may as easily be taken up ready made from some other organ, just as sugar is from the liver. Farther, it is usually held that certain easily oxidizable matters, such as the fatty acids, but more particularly sugar which is taken up into the blood in quantities far greater than the urine can excrete, are burnt away in the blood into *Carbonic Acid* and water; of this, also, the proof is entirely wanting." (P. 158.) These are usually looked upon as among the simplest examples of chemical action in the body, yet the tendency of the above remarks is to show that even these cannot take place without the intervention of vital actions. There is one phenomenon to which, however, these remarks do not apply, viz., the change of the white into red corpuscles, with the formation of colouring matter,—a change which, as far as is known, takes place within the blood itself. It being granted that some blood-corpuscles possess vitality, and that changes may take place in them whilst floating free in the plasma, have we not here room for a theory of permanent and independent blood disease? No: for the above remark of Virchow as to the transitory nature of the blood in general applies also to the corpuscles, as will be plainly seen by reference to what is known of their origin and the changes they undergo, although much still remains obscure. For if they are only short-lived and do not propagate themselves, their origin must be traced back to the solids, and, therefore, any influence to affect them permanently must act upon their source. Now it appears that the red corpuscles, which are by far the most numerous, are of a transitory nature. "It is certain," says Dr. Sharpey, "that the corpuscles are not exempted from this general change (of the mass of the blood), but it is not known in what manner they are consumed, nor has the process been fully traced out by which new ones are continually formed, to supply the place of the old." (P. 51.) He goes on to say that the prevalent opinion is that the corpuscles of the lymph and chyle become the pale corpuscles of the blood, and are afterwards converted into the red discs. "The red corpuscles," says Hermann, "are continually perishing, and new ones being formed; also the new red corpuscles are formed out of the white ones." (P. 154.) With respect to the time each corpuscle may exist, I can find nothing definite in the statements of physiologists, but it is evident from the above that the origin of the white corpuscles is the matter of primary importance to our present subject. According to Hermann—

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* *Grundriss der Physiologie des Menschen,* Berlin, 1867.

> "The colourless corpuscles, identical with the lymph cells, arise most probably all in the lymphatic glands and follicles (as well as in some similar structures—the thymus and thyroid glands) and in the spleen. Those formed in the first-named organs are poured into the blood along with the lymph; those from the spleen, on the other hand, are directly mingled with the blood already in part transformed into red." (P. 155.)

As an additional source of the white corpuscles, Dr. Sharpey names "the agminated and solitary follicular glands of the intestine which, though differing much in form, yet in essential structure have much in common with the lymphatic glands; and partly also from the irregular deposits of pale corpuscles which have been recently recognised in the intestinal mucous membrane." Their mode of production is by division of parent corpuscles or cells, contained in the glands and other parts above mentioned. With respect to the conversion of the white into the red corpuscles, Hermann states, "the transformation of white into red corpuscles takes place most likely everywhere in the blood, but has only been demonstrated in the spleen, whose venous blood contains numerous transition forms." (P. 157.)

With respect to the nature of the white corpuscles, their chemical composition is not yet accurately known, and they are described as round nucleolar cells, larger than the red corpuscles. "They display lively movements, such as sending out and withdrawing processes, whereby foreign granules can penetrate their interior." (Hermann, p. 43.) "In short, exhibiting phenomena which have been aptly compared to the movements of an amœba." (Sharpey, p. xxxii.) From this it appears that they are living cells, or masses of protoplasm, and may, therefore, exercise vital functions while floating in the plasma. In consequence, the possibility of foreign agents introduced into the blood acting upon them vitally must not be overlooked. Their existence is only transitory as above said, and their office seems to be to form (apparently by spontaneous change) the red corpuscles. These latter, as is well known, fulfil the indispensable function of carriers of oxygen, besides being depositories of pigment and serving other purposes not exactly ascertained. As far as I can gather from what is known of the subject, the life of the corpuscle ceases when the change into the red is completed, and the functions of the latter are merely physical. In fact the crystallizable nature of the hæmoglobin, their chief constituent, almost of itself would justify that conclusion.

From the above it appears that disease in, or agents acting vitally on, the corpuscles must be compared to similar conditions in the epithelial scales of the cuticle and nails, in which a permanent vital action can only exist in the matrix.

The question is, however, somewhat different with respect to the temporary direct action on the white corpuscles, and if any therapeutic result be produced by direct primary action of any agent on the white corpuscles, that must be removed from the category of therapeutic specificity, as above defined by me.

This subject will be more fully treated of when we come to consider the experiments of Dr. Bintz with *Quinine*, from which he explains its antiphlogistic power through its acting directly on the white corpuscles, to whose movements so much importance has been attributed lately by Cohnheim, in the process of inflammation.

In conclusion of the above physiological remarks, we must remind the reader that alterations in the blood, though not indicative of disease therein, as usually held, are of extreme value for diagnostic purposes, and especially so for specific or homœopathic practice.

It is hoped that the homœopathic school will lose no time in adding such indications to the provings of medicines. The phenomena of the changes in the corpuscles exhibited by the spectroscope seem to be very definite and striking.

From the foregoing it must be now evident that the supposed counteractive or catalytic order of alteratives cannot act directly, either chemically or vitally, on the blood in a permanent manner, but must operate, like other vital modifiers of nutrition, through the solids. How authors have all along been so ready to take up with hypotheses professing to explain the phenomena of the living body by reference to primary changes in the blood is probably to be attributed to preconceived notions inherited by successive generations of theorists from the earliest times. This is shown by the extreme levity with which a variety of common facts are assumed to constitute proofs of the humoral doctrines. For instance, Headland, in professing to explain the specific action of *Arsenic* on the "catalytic principle," says its power of producing cutaneous eruption shows its action on the blood, and winds up with these words:—"Any kind of eruption would alone constitute sufficient proof of an operation in the blood." It is unnecessary to follow Headland in his attempts to explain specific medicinal actions by their presumed catalytic action in the blood, for they amount to little else than that shuffling of chemical formulæ which was so much in fashion some years ago. It is the more superfluous, inasmuch as the author himself, after a lengthened discussion of this subject, is forced to leave off with the following most lame and impotent conclusion:

"Now the mode of counteraction is not defined, because it is only in a few cases that we can even guess at it. In the majority of instances it seems inexplicable. We know that syphilis is a poison in the blood, *Mercury* also is a poison in the blood. But why does *Mercury* antagonise and annihilate syphilis? The case is the same with scrofula and *Iodine,* with lepra and *Arsenic.* It is very humiliating to be baffled when we have got thus far."

And again, while speaking of *Iodine,* he says, "It probably counteracts morbid operations in some way that we do not understand." So that, granting his premises that the diseases in question are seated in the blood (which is a totally unproved hypothesis), and that the medicines do act primarily on the blood (equally unfounded), yet we come back exactly to the same point at which he started, nothing having been explained or even in the least degree elucidated.

While in the midst of his attempted explanations, which consist of nothing but the importation of Liebig's catalytic theory of fermentation then much in vogue, though now exploded, it suddenly occurred to him that if medicines acted through a power such as catalysis, that would furnish an argument in favour of the theory of infinitesimal doses, because the medicine merely sets agoing a process in the blood, while on the products thus generated its power and influence depend, and that thus "we may possibly gain some insight into the cause of the powerful effects of some apparently insignificant medicines." (P. 172.)

He stops to dispose of this, but all he can say is simply to assert that such small quantities can have no effect, and "even a tenth of a grain would generally be powerless" (!) A much more remarkable thing, however, than the above theories is the circumstance that in this order of alteratives where we come into close quarters, as it were, with the theory of mutual action of the counteractive agents and the disease, the idea of a necessary similarity between the two has forced itself upon the minds of most thinkers; for example, Sydenham says, "This method of merely introducing different qualities can no more effect the direct destruction of specific diseases than a sword can quench a flame. What can be done by cold or heat, or wet or dry, or by any of the secondary qualities that depend upon them, against a disease whose essence consists in none of them?" (loc. cit.)

We find passages of similar import in the works of more recent authors:

> "Marvellous contrast! *Mercury* excites the healthy tissues to alterant, antiplastic, and ulcerative actions; while in tissues hectically eaten away by the pox, it excites plastic and reparative actions. What causes destruction here brings about regeneration there."—*Trousseau and Pidoux*, i, p. 357.
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> "For in some few cases their action may, to a certain extent, simulate the disease which they tend to cure, and has thus been confounded with it by this imaginative observer.* This partial resemblance is possibly due to the fact that both disease and remedy produce a series of changes in the same set of particles in the blood. If it were not so, the remedy could not meet the disease. It would be out of its province as not acting at all in the same sphere. But that the actions are essentially different is sufficiently proved by the fact that they counteract each other."—*Headland*, p. 100.
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> "Dr. A. T. Thompson states that the action of *Arsenic* is liable to exacerbations and remissions, and sometimes even intermissions. Thus we may suppose that there is a certain degree of analogy between its operation and that of the malarious poison, by virtue of which it may perhaps exert a corrective power over the working of the latter in the blood."—*Headland*, p. 196.

Hence it is abundantly clear that therapeutic specificity does not receive its explanation in the production of the full physiological action of this order of alteratives, as that would simply be equivalent to aggravation of the disease.

I will now pass to the subject of the so-called restoratives.

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* He alludes to M. Hahnemann, as he calls him, as if he were a Frenchman.

(*To be continued.*)

# REVIEWS.

*Homœopathy: its Nature and Relative Value.* By ARCHIBALD REITH, M.D., Physician to the Royal Infirmary of Aberdeen; with an *Appendix* by D. DYCE BROWN, M.A., M.D., Fellow of the Obstetrical Society of London; Medical Officer to the Aberdeen General Dispensary, and late Assistant-Professor of Materia Medica and Medical Jurisprudence in the University of Aberdeen. Aberdeen, 1868.

THE author of this pamphlet, Dr. Reith, lately charmed us with three eminently scientific papers in the *Edinburgh Medical Journal* for February, April, and September last; which starting from the latest advances made by physiology led irresistibly to the therapeutic principle of Hahnemann. It was evident to every attentive reader of those remarkable articles that the author was on the point of becoming, if he were not already, a sincere believer in the therapeutic maxim *similia similibus curantur.* We hoped, however, that he would continue his valuable contributions to the pages of our allopathic contemporary, and so influence the minds of many of its readers to bestow some attention on the doctrines of our school: for we know how hopeless it is to get them to look into any book or periodical that is ostensibly devoted to homœopathy. But the intolerant spirit of his professional brethren has forced Dr. Reith to declare himself favorable to homœopathy sooner than we expected or he desired. Though we cannot say we regret that Dr. Reith has declared himself in favour of our system, for we welcome him to our ranks with the utmost cordiality, still we cannot help thinking that he might have effected much good had he still been permitted to contribute a further series of such articles as he has already published in the *Edinburgh Medical Journal.* Of course we make no doubt that after the pamphlets he has written the columns of this, as of all our allopathic contemporaries, will be rigidly closed to him.

We have lately said much about the intolerance and bigotry of the allopathic sect, and this number of our Journal contains another proof of its intensity even at the antipodes; but provoking as it is to us to be maligned as quacks and impostors, we cannot help feeling amused at the persistencey with which homœopathy is pronounced by our adversaries "irregular practice." By allopathic practitioners one and the same disease may be treated in a dozen or a score of different, often diametrically opposite manners. One will bleed it, another blister it, a third purge it, a fourth sweat it, a fifth puke it, a sixth burn it, a seventh tonic it, an eighth stimulate it, and so on—all this is "*regular*" practice—save the mark! But if we treat it according to the only known therapeutic rule in nature—a rule that has been acknowledged since the days of Hippocrates—ours is "irregular" practice! Thus in allopathic slang *regular* practice means practice according to no rule; *irregular* practice, practice according to the only known therapeutic rule. We are free to employ every means in the treatment of disease which we know can have no curative influence: as long as we do so we are excellent fellows, scientific doctors, regular practitioners; but let us prescribe a remedy which nature's law requires for the cure of the disease, we are at once quacks, impostors, irregular practitioners, with whom no one who has the slightest regard to the dignity of the profession will condescend to associate.

If we desire to obtain from our adversaries an explanation of what they call "regular" practice, we get as little satisfaction as Pat Kelly when he requested Father Murphy to explain to him what a miracle is. Pat was a good catholic, but at the same time he had an inquiring mind, and was rather given to ask troublesome questions. One Sunday after service as the priest was leaving the church Pat sidled up to him and said: "Ah! yer riverince, that was a beautiful sarmin ye gave us this marnin', shure it was an illegant discoorse." "Glad it plazed ye, Pat." "There's jist wan pint, if I might be so bould, I would like to ax yer riverince anent." "Well, and what's that, Pat?" "Shure an' I'd like if yer riverince would make me sinsible of what a mericle is?" "Ah! well then, Pat, and I'll thry—jist walk on afore me." "Och, now, Father Murphy, an' it's not for the likes of me to be walking afore yer riverince." "Well, then I can't make ye sinsible of what a meracle is widout ye do so, Pat." So after some modest hesitation Pat stepped in front of the priest and thus they walked on. Presently Father Murphy administered a tremendous kick to that part of Pat's person where, as the French say, *il cesse de porter le nom de dos.* "Och, murther!" cries Pat, "ye've kilt me intirely," and he writhed about in agony. "Did ye feel it?" coolly inquired Father Murphy. "Is it feel I did," groaned Pat, "shure I feel it in iv'ry bone of me body, from the top of me hid to the tips of me toes." "Well, now," says his reverence, taking a pinch of snuff, "look here, Pat, if ye hadn't av felt it, it would have been a meracle."

So say virtually the allopaths to us: "If you would not prescribe in diseases the only medicines nature points out as the true curative remedies your practice would be regular."

Dr. Reith experienced the intolerance and bigotry of his colleagues to such a painful extent that he published the present pamphlet in pure self-defence; and if he has turned the tables on his persecutors they have themselves alone to blame. He brings together a goodly array of the facts that prove most conclusively the truth and efficacy of the homœopathic treatment, and culls from the published works of allopaths many confessions of the worthlessness of the old method, testimonies to the high character of Hahnemann, and avowals of the claims of homœopathy to an impartial investigation. He makes a slight mistake in defining allopathy as the treatment of opposites—that is, more properly, *enantiopathy*—allopathy is well defined by Hahnemann * to be a treatment "by the use of such medicines as are capable of producing in the healthy body a *different* affection from that exhibited by the disease to be cured." This definition, which is the proper rendering of *allopathy* or *allœopathy,* will include every mode of treatment that is not homœopathic.

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* *Lesser Writings*, p. 703.

To us—who are satiated and surfeited with the proofs of the superiority of homœopathy the most interesting part of Dr. Reith's pamphlet is where he recounts the manner of his conversion to the system of Hahnemann. We shall give it in his own words.

"It was not long before I discovered, when a student, that medical men were completely divided on the subject of therapeutics. An esteemed teacher used to spend an hour occasionally in discussing various theories of the action of a particular drug, ending with such words as these—'The fact is, gentlemen, we know nothing at all about the matter.' Students naturally adopted the treatment of the teachers they most respected, and put it in practice at the commencement of their professional career. The fear of examiners often made them outwardly assent to opinions which in heart they despised, and which, as soon as they had obtained their degree, were thrown aside. Such was my position when I settled in Aberdeen. I carried into practice those principles which were taught me by the men I had been accustomed to regard with most deference. By degrees, however, I found, as all practitioners have likewise done, that medicine exerted little influence on the progress of disease, and was, moreover, injurious in many cases. I examined the literature of the profession, and found it, to my sorrow, as regards therapeutics, a jumble of conflicting recommendations. In these circumstances I was compelled to give my assent to the opinion which is now fast gaining ground, namely, that disease is best left to nature, and that patients, as a rule, recover best when they are let alone. In this way I went on for years, prescribing only what medicine I felt to be necessary, except when the patient's faith in drugging obliged me to please him by some harmless (?) placebo. Many a time, not only singly, but also in consultation, did the comparative helplessness of our profession force itself upon my mind. I do not wonder that able men sometimes gave up their practice in disgust.

"About four years ago a case died under my care in the infirmary. The appearances presented at the *post-mortem* examination, compared with the physiological experiments of Claude-Bernard, Brown-Séquard, and others, opened up to me a train of thought at once new and interesting. For two years I carefully studied the subject, and at last came to the following conclusions:—

"1. That medicines have at least two actions on the system, instead of one, as commonly supposed.

"2. That, in the majority of diseases, it is the primary action that is curative, and not the secondary.

"3. That to obtain this primary action medicines must be given on the very opposite principle on which they are commonly prescribed, and in much smaller doses. The amount of the dose to be determined by experiment.

"Assuming that the above-named eminent physiologists are correct in the doctrines they teach (which is universally admitted to be the case, their writings having, in fact, revolutionised pathology), these conclusions are inevitable. They are, indeed, more or less anticipated by some eminent authorities.

"Up to this time I was a total stranger to homœopathy. Although I knew nothing of it, or rather *because* I knew nothing, I was as bitter against it as others. I had never read a homœopathic book, nor seen a homœopathic experiment, yet I considered it the wildest delusion. I was not a little startled, therefore, when I was told that the conclusions I had come to were the main principles of homœopathy; in fact, its very essence. I would not believe it at first; but after reading some of the peculiar writings of that system, I was obliged to confess, to my disappointment, that the ground I was preparing to occupy was already filled, and that the field I proposed to enter had already been well cultivated by Hahnemann and his followers. They had entered it by one way, while I had come from another; that was the whole difference, one, however, in favour of homœopathy. I thus occupied the singular position of being brought face to face with homœopathy simply by following out the teaching of some of our most eminent writers, and not by studying the system itself. This being so, I felt myself bound to investigate the whole subject thoroughly, and not to rest till I had formed an impartial judgment on its merits.

"At first I was repelled by the evident nonsense which abounds in some of the earliest homœopathic works. The real fundamental truths were often buried in wild and speculative theories, and I had difficulty in bringing them to the surface. The more recent writings, and particularly such books as Dr. Sharp's Essays, placed the subject before me in a very different manner. In them homœopathy is divested of all that is unsound and speculative, and placed before the reader in a most intelligent, and at the same time philosophical manner. I found then that the despised and much-abused system was very different indeed from what I had been accustomed to believe, and from what its detractors had declared it to be. Instead of being a visionary thing, the offspring of a wild imagination, I found it a rational and scientific mode of treating disease. So far from being supported by ignorant pretenders, I found ranged under its banner such men as Professor Henderson, Drs. Quin, Sharp, and other men of note. Such a system demanded a most careful experimental examination. Accordingly, after making myself acquainted with the principles of homœopathy and their mode of application, I determined to test them by practical trial at the bedside.

"For more than two years I have been carefully experimenting, and I must now acknowledge my candid conviction of the great value of this mode of treatment in disease. It seems to me as if a new light had been thrown on medicine, and that, instead of groping in darkness in the vain search for remedies, medical men have now the path clearly before them, if they will only walk in it. I need not enter into the details of my experiments, but a short summary may not be altogether unprofitable. I may say that neither patients or friends knew that my treatment was different from that of others, so that 'faith' had nothing to do with the recoveries.

"The first case on which I used homœopathic treatment was one of inflammation of the right lung. The poor fellow had been subjected to all the so-called advantages of the regular system. He had been bled freely, blistered, and purged well. The lung became gangrenous, and a persistent diarrhœa supervened, under which and the discharge from the chest he was rapidly sinking. The medical attendants did the best they could to check the diarrhœa, but in vain, and they at last gave him up. At this juncture I first saw him, and found the case to all appearance so hopeless that I was angry with his friends for insisting on the possibility of his recovery. It was evident, however, that to check the diarrhœa was the first indication, and as other means had failed, I thought it a good opportunity for testing homœopathy. To my own surprise, as well as that of the patient and his friends, one or two doses of the medicine I gave completely checked this unfavorable symptom, and from that time the poor fellow gradually recovered, retaining only the use of his left lung, by means of which he has lived since then. The successful treatment of this case made a strong impression on my mind.

"The next experiment I made was upon myself. For many years I had been the victim of periodical headaches, recurring at variable intervals from a week to a month, and rendering me almost useless for a whole day at a time. I had gone the round of the pharmacopœia, consulted several physicians, tried every conceivable plan to get rid of this annoyance without success. At last I tried homœopathy. When I felt an attack coming on, I took a few drops of a suitable remedy, and to my intense relief the attack was arrested. From that time I have not had a headache, except when I neglected the premonitory symptoms and omitted to take the medicine; it is always sufficient to prevent a paroxysm if I take one or at most two doses of the remedy at the commencement. This was an *argumentum ad hominem* which I could not withstand. Several instances of a similar kind have passed under my notice since.

"After this I continued my investigations with more expectation of success than before, and the following are a few of the more striking results.

"During the autumn of 1866 I met with a number of severe choleraic attacks, some of them not much removed from the Asiatic cholera than prevailing in town. I used homœopathic treatment with them all, and I am bound to say that, although I had seen many similar cases before, I never saw any recover so rapidly or so effectually as those did which were treated homœopathically. It is a curious testimony to the homœopathic tendencies of the old school, that the castor-oil treatment of cholera, to which Sir Thomas Watson has recently given his adhesion, is neither more nor less than a rough homœopathy. The next step will be the adoption of the pure system.

"I have had a considerable number of cases of enteric or gastric fever under my care during the last two years. There are few diseases which are more modified and rendered less dangerous by homœopathy than this. The contrast between the course of the fever under the old system and when treated by the law of similars very speedily forced itself on my notice. I had seen much of this fever under allopathy: I have now seen it under homœopathy, and the difference in the result is very great indeed.

"Dyspepsia is one of the stumbling-blocks of allopathy. Yet, when I began to treat such cases homœopathically, I was often surprised at the almost marvellous celerity with which symptoms of many months' duration disappeared. Obstinate constipation, which for years yielded only to regularly taken laxatives, as pills, castor oil, &c., soon gave way under the simple remedies of the new system. The common functional disorders of the stomach and bowels became much more tractable, and were cured much more frequently and speedily than before.

"Those formidable diseases, the inflammatory disorders, afforded a wide field for homœopathy. I need not say that the system was tried most extensively in this class of ailments, from the simple cold to the most formidable inflammation. The results were invariably in favour of homœopathy; indeed homœopathy did for many of the patients what allopathy was powerless to do.

"I have never found as yet that homœopathy had any power to arrest the progress of consumption when that disease had fairly been established; but in removing the dyspeptic symptoms which so often precedes the development of tubercle in the lungs, it is certainly invaluable. In relieving and palliating some of the most troublesome accompaniments of confirmed phthisis, it is of signal service.

"There are two classes of disease in which it is scarcely possible to over-estimate the value of homœopathy. I allude to the diseases of females and children. In these I have used it extensively, and I only state the truth when I say that this large portion of suffering humanity have much reason to be thankful to the Giver of all good for so simple and effectual a system of treatment as homœopathy. There are those who 'suffer many things of many physicians, and are nothing bettered;' and in some of these I have seen homœopathy effect more or less good. And for children, when we consider the fearful struggles in the vain efforts to force nauseous drugs into their mouths, and the consequent injury to mind and body, we wonder that parents could have put up with the old system so long, apart from everything else. Homœopathy is in all respects a blessing to the nursery.

"Having, then, put the system to so long and constant a trial, I must in honour, and from experience of its truth, declare myself a warm supporter of homœopathy in so far as it is applicable to the treatment of disease. To do otherwise, from a servile fear of consequences, such as loss of caste, &c., would be meanness and cowardice in the highest degree. But while thus avowing my honest conviction, I must state also that I am not, and never shall be, bound to one system of treatment more than another. The object of physicians is to cure their patients by any means in their power, and not to support special doctrines. While, therefore, I adopt homœopathy as applicable to a large number of diseases, I still retain all that is good in the old system (much of which is, however, homœopathic), and in certain cases consider allopathy to be properly indicated. Homœopathy gives the patient the advantage of what is good in allopathy, in addition to its own inestimable benefits. It does not ignore the advantages of pure air, regulated diet, change of scene, and the usual hygiene remedies of the old school. It does not consider it inconsistent with its principles to administer wine or brandy for exhaustion, an occasional purgative, an opiate to procure sleep, chloroform in convulsions, *Ergot*, &c., when the nature of the case demands it. I have plainly stated in my published papers that there are frequent instances where the physiological or secondary action of a drug is required instead of the primary; the meaning of which is just this, that allopathy is required in some cases instead of homœopathy. The object in a given case is its rapid, effectual cure, or at least relief of symptoms, and the physician's duty is to further this object by the best means in his power, without reference to allopathy, homœopathy, or any other 'pathy. In the present state of medical science, I believe allopathy suited to some cases, homœopathy to many more, while there are others which can derive benefits from neither, and ought therefore to be let alone. Such is my creed, and that of my friend Dr. Dyce Brown, the same as that of the most enlightened homœopathic physicians of the day. For this we must be subjected to 'obloquy and reproach' by those who will not take the trouble to investigate what they condemn.

"In proof of the total misconception which prevails in the professional mind regarding homœopathy, I may state that on the publication of my views, I received several communications from allopathic medical men agreeing with my conclusions. They said in effect—your views are similar to our own, and are the true explanation of the complexity of drug action. To which I replied—If you agree with me then you must face homœopathy, for my views are neither more nor less than a physiological explanation of the law of similars. 'Oh! but,' said they, '*your* homœopathy is rational and intelligible, quite different from Hahnemann's absurd system.' My reply is in effect this—My homœopathy and Hahnemann's are identical; I have not given a single opinion, with the exception of the physiological basis, which was not held by Hahnemann long before. You assent to homœopathy as I present it; you abhor it as Hahnemann presents it—they are both the same *minus* the speculations and absurdities of the latter, which are now exploded. You thus take in six, but reject half-a-dozen. Your ideas of Hahnemann's system are, therefore, those of misconception and ignorance; for what you now assert your belief in has been the doctrine and practice of Hahnemann and his followers for more than half a century.

"Could anything better illustrate the erroneous ideas entertained of homœopathy by the profession? They have never studied it, yet they seem to know more about it than those who have. They launch out against it the most bitter invectives, they pour on it the grossest abuse, and all the time they are but wasting their energies on a phantom of their own imagination."

The appendix by Dr. D. Dyce Brown is a very interesting and instructive display in parallel columns of the effects of medicines, as ascertained by poisoning or voluntary provings, and their curative uses in diseases presenting analogous symptoms. The facts in both columns are entirely derived from the writings of allopathic practitioners, and numerous though they are, they might, we are convinced, be multiplied almost infinitely. Dr. Brown deserves great credit for the admirable manner in which he has performed his task; and we have great pleasure in hailing him as well as Dr. Reith as a valuable accession to our school. The talents and zeal both these gentlemen display in this early stage of their homœopathic career make us anticipate that their future labours will be fraught with much advantage to homœopathy, as well in its scientific development as in its spread among the patient world of the far north, who have hitherto been unblessed with the knowledge of Hahnemann's system.

Dr. Reith's public confession of homœopathy has of course excited considerable attention in the medical periodical world; but we are very much struck by the altered tone of the chief organs of allopathy in alluding to the subject. The worst the *Lancet* has to say of Dr. Reith's pamphlet is that it is "cauld kale," the ancient city of "Bon Accord" suggesting the comparison. The *Medical Times and Gazette* mildly says that "Dr. Reith is an ingenious and honourable man who has let himself be entangled in a metaphysical puzzle." *The Medical Press and Circular* addresses Dr. Reith in a strain that reminds us of the conclusion of Burns's "Address to the Deil:"

"Oh! wad ye tak a thocht an' men',
"Ye aiblins micht, I dinna ken,
"Still hae a stake!"

In all these articles we fail to detect the virulent abuse that was customary a few years since when homœopathy was the theme.

The manner in which Dr. Reith was treated by his allopathic colleagues in the infirmary was characteristic. The medical officers are annually re-elected in December, so they waited patiently till the election day came round, and then sent in a letter to the governors to say they would all resign if Dr. Reith were re-elected. This threat had the anticipated effect, and Dr. Reith was not re-elected. Thus medical trades-unionism flourishes as far north as Aberdeen, and a strike is at once threatened if a practitioner who judges for himself in therapeutic matters is allowed to retain his situation.

It remains to be seen how long the public will submit to the dictation of the allopathic sect. Have they not subscribed for medicine as a whole in public hospitals? Why then should the poor man be deprived of a method of treatment which recommends itself to his judgment, in order that the noble profession of medicine may be degraded to the level of a Sheffield saw-grinders' union?

*Transactions of the Twentieth Session of the American Institute of Homœopathy, held in New York, June 4, 5, 6, and 7,* 1867. Boston, 1869.

THIS is a beautifully printed and thick octavo of we don't know how many pages, for it consists of a good many separately paged parts, and like the cabby who was asked by his indignant fare how many miles he pretended to have driven, we "have no time to be doin' sums of 'rithmetic." However, be the number of pages great or small, and we guess them to be between 400 and 500, the matter they contain is some of it very interesting, and some of it rather amusing. Of this latter character we consider the long discussion so faithfully reported respecting the admissibility of female practitioners to the membership of the institute. Had the members called themselves *fellows,* like so many of our learned bodies on this side the Atlantic, we presume no lady could have sought for admission. But as that was not the case, a lady doctor, Mrs. Mercy B. Jackson, M.D., has for some years, apparently, sought to be admitted a member of the Institute. The discussion was well kept up during portions of the successive days, and when the vote was at last taken, it was found that fifty-five were in favour of the admission of feminine men into the institute, and sixty-eight against, so, for the present, the ladies are kept out in the cold, as far as the American Homœopathic Institute is concerned. We think, on the whole, the institute did well to exclude practitioners of the opposite sex; our own experience on this side of the water as regards lady members of learned and scientific societies is not encouraging. They have invaded several of the learned Societies in London, and we cannot see that much good has been done either to science or the ladies by their admission. At the Royal Institution in Albemarle Street they are, perhaps, harmless enough, for the style of lectures delivered there is quite suited to a mixed audience. Great men are engaged to give a popular and entertaining account of their own discoveries, or the progress of the branch of science to which they are devoted. The Royal Geographical Society has been converted by the ladies into a brilliant evening tea-party, presided over by the gallant and courtly, if distinguished Sir Roderick Murchison, but whether it accomplishes much for the progress of geographical science is a question. The Ethnological Society was ruined by the admission of ladies. It was the obstacle their presence was felt to be to the free discussion of ethnological questions which led to that great schism resulting in the foundation of the Anthropological Society. The loves and the hates of these two rival societies are at present the amusement of the metropolis. A society called the Dialectical has lately been established in London, to which ladies are eligible, but we should imagine that its recent debates on the "social evil" are hardly likely to be much advantaged by the presence of the fair sex, unless indeed it could be possible to hear what the leading members of that widespread sisterhood had to say on the subject. If the presence of ladies is found objectionable at societies like the Ethnological and the Dialectical, *à fortiori* it must be much more objectionable in a medical Society, where subjects are brought forward which could not, without awkwardness, be discussed before women, even of advanced age.

Previous to this discussion on women's rights and wrongs, Dr. Fincke, who seems to have earned a certain notoriety by the preparation of some very high potencies, presented a detailed proving made with the 100,000th dilution of *Lachesis.* It was referred to the committee on publication, but as it does not appear in this volume, perhaps the committee did not like to commit themselves to publish it. It seems that Dr. Fincke makes some sort of mystery of his mode of preparing these high potencies, and a resolution was proposed suggesting that it was time Dr. Fincke should fulfil a promise he had given to publish his mode of proceeding. Dr. Fincke would not, however, take the hint, he said he would give his modus operandi to the public at his own convenience; meanwhile he denied that there was any secret in the matter. His dilutions were what they professed to be, real preparations on the centesimal scale. If this be so, then a simple calculation will show what a vast period of time Dr. Fincke must devote to his preparations. Supposing it takes half a minute to make a potency, then to make the 100,000th it will require 833 hours of incessant labour, or thirty-four whole days of twenty-four hours. But as we can't suppose that even Dr. Fincke's devotion will allow him to work more than six hours a day at his herculean task, to bring a medicine up to this potency will require 136 days of six hours, and, at this rate, he could not potentize three medicines in a year up to the 100,000th. We should like to know how many medicines he offers for sale in the 100,000th potency; we should then be able to form some idea of his amazing industry. In the meantime, we regret to say that these wonderful potencies have not been seen in this hemisphere, or if they have we have not met with any one who has essayed their marvellous powers.

An excellent annual address was delivered by Dr. Cooke, of Chicago, and is reported in this volume. Then comes a complete code of medicinal ethics, prepared by a committee appointed for that purpose. It is divided into three parts. The first relates to the "Reciprocal duties and obligations of physicians and patients;" the second to the "Duties and obligations of physicians to each other;" and the third to the "Reciprocal duties and obligations of physicians and public;" all very good and perhaps necessary things, constituting a sort of medical decalogue, or ten commandments, only there are eleven of them; but then we have heard of an additional or eleventh commandment supplemented to the decalogue, so that the parallel will still hold good.

Next come the rules of this Institute, and a list of the members, 550 living members, and 100 dead, so that this one society contains nearly twice as many members as there are practitioners of homœopathy in these isles.

The next portion of the volume is devoted to some papers on the materia medica read at the annual meeting. The first of these is entitled "Observations during drug proving," by Dr. Wesselhoeft; the next is a proving of *Pulsatilla nuttalliana* by the same gentleman. The proving seems very complete and complements that already published by Dr. Halle in his *New Remedies*. Then follows an arrangement, by Dr. Williamson, of the provings already published of *Hydrastis canadensis*, and then a proving of the *Tiger Lily* by Dr. Payne, not very complete.

The next section of the volume is devoted to the report of the bureau of clinical medicine on zymoses. It contains, first, the general report of the bureau; secondly, a paper on the alleged change of type in disease by Dr. H. D. Paine, a subject sufficiently familiar to our readers; thirdly, an excellent though brief article on Diphtheria by Dr. Beckwith, giving in addition to his own experience a *résumé* of the chief remedies found of use by other homœopathic practitioners. Dr. Beckwith is far from claiming universal success for his treatment in this very fatal disease, but he alludes to the large number of cases said to have been treated by Drs. Hering, Lippe and Reichelm, without any death.

Dr. Comstock next gives his experience in the late epidemic of cholera in St. Louis. He speaks favorably of the effects of Chapman's spinal icebag in the stage of collapse, but he found that it could not be kept on with advantage for so long a time as Chapman advises, as it was apt to cause pulmonary and cerebral congestion. Dr. Comstock treated, in private practice, at the Good Samaritan Hospital and at the Girls' Industrial Home, in all about 124 cases, and of these he lost twenty-five, a very fair success.

A few clinical cases by Dr. Hause follow, of not much interest.

The fourth section contains the report of the bureau of Obstetrics. The first paper here is a report on Obstetrics by Dr. Guernsey. He does justice to the method of treatment of placenta prævia, first proposed by Dr. Wielobycki in our fourth volume; he describes it as "the *ne plus ultra* of a proper method of treatment." He also urges the discontinuance of the practice of bandaging after delivery. Our readers are already familiar with his views on this subject.

This is followed by a paper on *Puerperal Convulsions*, by Dr. Sanders. He describes the symptoms, etiology and pathology of the disease, and gives directions for its prophylactic treatment. But when he comes to the treatment of the disease itself, he fairly throws up the sponge and says, "I have yet to see a genuine paroxysm of eclampsia unequivocally and with certainty controlled by a potentised drug." There are, however, some expedients not strictly within the sphere of homœopathic remedies which he asserts to have proved very successful. One of them is chloroform administered by enema, the other is Chapman's suggestion of icebags to the spine. We do not know if other obstetric practitioners of our school have such a poor account to give of homœopathic remedies in this disease, but we suspect that, as with hysteria and epilepsy, there is little to be done with specific treatment during a fit, but much to prevent a recurrence, or diminish the severity of future convulsions. If the fit is to be arrested, it must be by some such expedient as chloroform or icebags to the spine.

Dr. Cook next relates a case of cure of procidentia uteri, by causing ulceration of the posterior cul-de-sac by means of *Chloride of Zinc* applied with a pledget of cotton. He calculated that the ulceration in healing would shorten the posterior wall of the vagina, which was two inches longer than the anterior. His expectations were fulfilled, and the patient was completely cured by these simple means.

Lecture five is the report of the bureau of surgery. To this section Dr. Helmuth contributes some striking cases: 1. Varicocele with a new operation; 2. Traumatic stricture of the urethra; 3. Caries of the bones, all distinguished by his consummate knowledge of his art and his special surgical skill. Dr. James communicates a new apparatus for treating fractures of the patella, which seems both ingenious and efficacious. Dr. Foote has a paper on the external use of medicines, the expediency of which treatment he doubts. Dr. Willard describes a method of treating fractures of the femur without splints which he has practically tested with success. Dr. Hotchkiss has an article on bandaging. Dr. Cooke describes some anatomical anomalies he has met with. Dr. Liebold gives a paper on astringents, and cites Dr. Borosoff to prove that the so-called astringents are merely irritants of the mucous membranes, and that their action is in every case homœopathic. A paper on post-mortem examinations, by Dr. Blakeley, fitly concludes the surgical section.

The remainder of the volume is occupied with the general report of the bureau of organisation, registration, and statistics; a sketch of the History of Medicine, by Dr. Krebs—very sketchy; reports of homœopathic institutions, and obituary notices.

On the whole, this volume of Transactions does great credit to the American Institute, and we hope to have the pleasure of perusing their Transactions for many years to come.

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*Eléments de Médecine pratique, contenant le traitement homœopathique de chaque maladie.* Par le Dr. P. Jousset, Président de la Société Médicale Homœopathique de France, &c. &c. Paris, Baillière, 1868.

*Elements of Practical Medicine, containing the homœopathic treatment of every disease.* By Dr. P. Jousset, President of the Homœopathic Medical Society of France, &c., &c. Paris, Baillière, 1868.

The title is rather a misnomer; for besides not mentioning nearly all the maladies that flesh is heir to, the author says of many of the diseases he does describe that their homœopathic treatment is yet to be laid down. In other respects the work, though carefully written, is open to the objection applicable to all similar works, that it treats of diseases too much in the abstract, and as individualisation is a prime requisite to successful homœopathic treatment, the practitioner will find but a partial and incomplete guide in a work like this. To be sure the author has sought to enhance the value of his work by considering most diseases under three forms—the common, the mild, and the malignant or severe; but this even is not sufficient, and a perfect work on homœopathic practice would subdivide these three divisions into a great many varieties corresponding with what we observe in nature. To do this effectually, one would require to know every variety of disease and the appropriate remedy, and this is beyond the power of any one person; and a book that should contain such minute information would be much too bulky for use, and even if not open to this objection, it would be of but limited value, for it would in fact be neither more nor less than a collection of histories of individual cases, more or less satisfactorily arranged. According to our notion, the perfection of a work on homœopathic therapeutics in the present state of our knowledge would be a series of monographs written by the most competent practitioners, wherein each disease should be described; first generally in regard to its semeiology, etiology, and pathology; then the particular therapeutics of every variety as far as that is known from *à posteriori* clinical experience, and probable from the *à priori* indications of our materia medica; lastly, a special repertory of the symptoms of both these classes of medicines should be added. Such a work would not necessarily much exceed the limits of Dr. Jousset's two volumes, for though it would include all those diseases respecting which we had some considerable clinical experience, we should have no chapters like some in Jousset's volumes, where he is forced to confess that we know nothing about the homœopathic treatment of the disease under consideration. Our materia medicas and repertories are the sources whence we must derive the hints for treating diseases of which we have no clinical experience.

But it is time to give some account of the work of Dr. Jousset. The author professes himself a devoted admirer and follower of Tessier, and, like his master, shows himself well acquainted with the recent development of pathology, and at the same time somewhat of an eclectic in therapeutics. Accordingly we have admirable descriptions of the course and progress of diseases in the several forms under which each presents itself, and their pathology when known, but the therapeutical part is not as lucid as we could desire, and with respect to some diseases it is extremely defective, more so than the actual state of our homœopathic knowledge would justify.

On the other hand the author renders an important service to the practitioner by mentioning the mineral waters that have been found serviceable in the principal affections he treats of.

In order to give the reader a taste of the quality of Dr. Jousset's work, we subjoin a translation of one of the most carefully written articles in it to our thinking—that, namely, on pleurisy.

Pleurisy is a disease characterised by inflammation of the pleura. There are five different forms of the disease; the *common*, the *mild*, the *latent*, the *purulent*, and the *pseudo-membranous* or *dry* form. These different forms are distinguished according to seat, as *double*, *diaphragmatic*, *interlobular* and *mediastinal* pleurisy.

Inflammation of the pleura is often symptomatic; we find it constantly but in a very slight degree in pneumonia, and in the pulmonary inflammations accompanying the development of tubercles. The purulent diathesis, especially its puerperal variety, is often attended by purulent effusion in one or both pleural sacs. Acute articular rheumatism has its symptomatic and metastatic pleurisies. Phthisis is frequently accompanied by pleuritic effusion with or without tubercular granulations. *Hæmorrhagic pleurisy* seems peculiar to tubercular subjects. Finally, inflammation of the pleura is also developed by propagation from neighbouring organs; peritonitis, abscess of the liver, &c.

PATHOLOGICAL ANATOMY.—In order to facilitate the comprehension of the physical signs of pleurisy, we shall commence our description by a study of the lesions attending it.

At the beginning of the inflammation the pleura shows a more or less intense ecchymotic injection; the epithelium is destroyed; the cellular tissue bulges and causes more or less thickening of the pleura. This vegetation or *proliferation* of the cellular tissue constitutes the false membrane of pleurisy, which unites itself more or less to the fibrinous deposits and becomes the point of departure of the vascularisation of these deposits and of their successive transformations.

The false membrane covers both pleuræ and limits the effusion on all sides, so that the fluid is in reality encysted. This anatomical disposition constitutes the difference between pleurisy and *hydrothorax;* it explains why change of position causes so little alteration of level in the fluid; it accounts for the existence of circumscribed effusions which do not always occupy the lowest part of the thorax.

The fluid is sometimes *fibrinous*, sometimes *purulent*, sometimes *sero-purulent.*

The *fibrinous* fluid belongs specially to the common and the mild forms; it is more or less limpid, often greenish and contains a greater or less quantity of pseudo-membranous flakes. Under the microscope pus-corpuscles may always be detected.

The *sero-purulent* fluid is opaque, more or less coloured, and contains a variable quantity of pus which falls to the lowest part of the pleuritic cyst.

The *purulent* fluid sometimes resembles the pus of an abscess, sometimes it is more or less serous; it often contains pseudo-membranous *débris.* Like all abscesses, the purulent cyst of the pleura has a tendency to burst; it advances by means of inflammation and ulceration, sometimes towards the bronchial tubes, sometimes towards the skin, sometimes, unfortunately, towards the peritoneum, and it often ends by emptying its contents in one or other of these directions.

The effusion of blood, with or without clots, which we sometimes find in the pleura, is owing to hæmorrhage caused by the rupture of newly formed vessels ramifying in the organized fibrinous deposits.

The pleuritic effusion compresses the lung against the spinal column, displaces the liver, the spleen, and the heart, and dilates the thoracic cavity by pushing out the intercostal spaces. The lung compressed by the effused fluid is reduced to one half or one quarter of its size; it is greyish and bloodless, covered with pseudo-membranous bands, and when the effusion has lasted a long time it is unable to regain its former expansion; sometimes in consequence of the organization of the false membranes which bind it down, sometimes because the pulmonary cells are obliterated.

When pleurisy is cured the effusion is absorbed, at first slowly then pretty quickly, and then again the last portion of it very slowly; the fluid lying lowest is the last to disappear. At the same time the walls of the cyst approach one another; they first unite by bridges and bridles of false membranes which for some time enclose fluid containing a quantity of pseudo-membranous *débris*. The fluid disappears completely; the fibrinous shreds undergo fatty degeneration and are also absorbed; the pus itself, if it have not made for itself an opening externally, is absorbed after passing through the fatty condition; the walls of the cyst come in contact, adhere closely, and the false membrane is transformed into cellular tissue, and at length disappears completely. When the pleurisy has lasted a certain time the lung compressed by the effusion does not regain its former volume; the obliteration of the cyst in that case is effected partly by the sinking in of the ribs, whence arises a more or less perceptible contraction of the side affected, and in young subjects a depression of the shoulder and consequent curvature of the vertebral column.

COMMON FORM.—This disease generally begins in an insidious manner. During the first days it is only characterised by a general feeling of discomfort, small irregular rigors, with heat and restlessness at night, a not very severe pain in the side, sometimes located in a part of the chest, sometimes in the hypochondrium. In some cases this pain in the side precedes the other symptoms by a week or a fortnight. But usually, after three or four days of the discomfort we have alluded to, the disease is characterised by a continued febrile movement; a more acute and localised stitch in the side; a short dry cough and increasing dyspnœa. Examination of the chest then reveals a commencing effusion. The common form of pleurisy rarely commences by a severe rigor and the febrile movement has seldom that sense of illness which accompanies it in other diseases, so that very often patients affected with pleurisy continue to get up during the first days; they endeavour to eat and pursue their usual occupations; and it is generally the doctor who tells them that they are seriously ill, and who persuades them to keep their bed. However, the effusion increases every day, the pain persists, the cough is short and as though checked by the pain; it is often by no means frequent, the dyspnœa increases as the effusion, pain, and fever advance; it soon constitutes the chief symptom. The febrile state is continuous; the pulse small, hard, from 92 to 108, the heat not great.

Generally the disease continues to get worse during all the first week and a portion of the second. At length the effusion ceases. It usually occupies the inferior three fourths of the pleural cavity, and is somewhat higher behind than before; often the whole pleural sac is filled by the effusion. In the most favorable cases, but these are the rarest, the effusion stops on reaching the middle of the thorax. At this period the dyspnœa is the chief symptom; the patient cannot lie either on the affected side on account of the pain, or on the healthy side, as that would diminish the respiratory motions that remain. Lying on the back but slightly inclined towards the affected side, the head slightly raised, the face pale, the alæ nasi dilated especially on the affected side, the least movement brings on a fit of dyspnœa, and if the effusion is considerable, if it is seated on the left side and interferes with the heart's action, the patient experiences lipothymia and may die suddenly of syncope.

The disease has now attained its period of full development, and the symptoms alter according as the disease is going to terminate in *recovery* or in *death*, or is about to pass into the *chronic state.*

*Termination in recovery.*—The fever declines, the pulse diminishes in frequency, sleep returns, the effusion after remaining stationary for a longer or shorter time begins to decrease slowly. The first days when the effusion has occupied the whole of the pleural cavity, its diminution is only perceived by the patient feeling better; his dyspnœa gradually being relieved. At length a clear sound on percussion can be heard in the clavicular region, then in the supra-spinous fossa. Every day the level of the dull sound becomes lower, at the same time the fever entirely disappears, the cough becomes loose or goes off entirely; sleep is good, the appetite returns and convalescence is slowly but surely established. When the disease terminates in this way the duration of the disease is generally about six weeks.

*Termination in death.*—This is very rare in the common form. We have already said that it may take place by syncope; it may also come through asphyxia, but death never ensues from the violence of the febrile movement in this form.

*Transition into the chronic state.*—This is probably the most frequent termination. The febrile movement ceases completely, the dyspnœa diminishes, the cough may persist or disappear, the patient sleeps, eats, gets up; but the stethoscopic signs show the persistence of the effusion, either in its original or in a diminished quantity. When it comes to this stage, pleurisy may present several different issues.

1. It frequently gets well after two or three months or a longer time; the symptoms that last longest are the pain in the side, and particularly the dyspnœa. Resolution takes place very slowly, and often only after alternations of amelioration and aggravation.

2. It lasts an indefinite time—this is rarely the case. I have seen several patients who had for several years had an extensive effusion in their chest. These patients complained of dyspnœa or feeling of discomfort or pain in the affected side, they were emaciated; but they were able to go out and to work to a certain extent.

3. Pleurisy that has passed into the chronic condition can bring about a fatal termination in various ways. Most frequently the patient has a relapse, which increases the effusion and perhaps converts it into pus. In that case the patient dies, as in other cases of internal suppuration, slowly, with hectic fever and colliquative diarrhœa, they bear a great resemblance to phthisical subjects. At other times the course of the symptoms becomes once more acute, the abscess opens externally or into the bronchial tubes, or into the peritoneum, and usually the patients sink more or less rapidly. The propagation of the inflammation to the peritoneum and to the heart can also lead to the same result. Frequently chronic pleurisy is but the first step to pulmonary phthisis, the effusion sometimes decreases considerably, but the fever, the emaciation, and the dyspnœa persist, and a phthisis with a rapid course follows the pleurisy.

Mild Form.—It comes on suddenly with a rigor, a stitch in the side, and an array of symptoms apparently much more serious than in the preceding form. The disease has a rapid course; by the fourth day it has attained its height and the effusion is at its apogee, but the febrile symptoms disappear; the effusion decreases rapidly, and often the whole malady is at an end by the seventh day. I have met with cases with a still more rapid course, which ran through all their stages in four days. The effusion may be considerable, but usually it is very limited; it is probable that in this form the false membranes are of no great thickness, for during convalescence we are unable to detect persistent dulness or creaking sound.

LATENT OR CHRONIC FORM FROM THE BEGINNING. — The absence of febrile symptoms characterises this form, the beginning of which almost always escapes the doctor's observation. Patients come to consult us complaining of getting thin, with paleness of face, loss of appetite, a little dyspnœa, rarely any cough, but frequently a vague pain in the shoulder or one of the hypochondria. On examination we find an effusion of greater or less extent.

These patients will not believe in the existence of a serious affection, and we have often found it difficult to keep them in bed. The progress of the symptoms is very slow, and it is only after a treatment of several weeks that we are able to obtain the absorption of the effusion.

PURULENT FORM.—This is characterised by the formation of a purulent effusion from the very first; hence it very much resembles the symptomatic inflammation of the purulent diathesis.

It commences by a well-marked rigor, which recurs regularly during the first days; the febrile movement is intense; it is attended by considerable heat with disposition to sweats; the stitch in the side is violent (which is not the case in the purulent diathesis); the face is red the first days, but it is not long before it becomes pale.

Purulent pleurisy has a rapid course; it rarely ends fatally towards the end of the first week or during the second; this fatal termination is caused by the malignity of the febrile action.

The purulent form may terminate in recovery, either by the effusion undergoing fatty transformation and being absorbed, which is the most favorable termination; or by the performance of the operation for empyema, or by the purulent effusion escaping through the bronchial tubes or skin. In the latter case the abscess almost always points about the fourth or fifth rib. This termination is ushered in by an œdematous swelling, followed by a redness which indicates the formation of the subcutaneous abscess. These different terminations may cause serious accidents which we have already alluded to when speaking of the common form.

PSEUDO-MEMBRANOUS FORM.—This pleurisy is characterised by the absence of effusion and by its very dangerous nature. We must not confound with this form those mild inflammations of the pleura which are developed in the course of pneumonia and phthisis.

Pseudo-membranous pleurisy is extremely rare; it is accompanied by violent febrile symptoms, by considerable dyspnœa, by violent stitch in the side; or in some cases by the sensation of painful constriction, which causes positive orthopnœa. The stethoscopic signs are very obscured, there is no cause for any dulness, and the extreme difficulty of breathing prevents us hearing the respiratory sounds. Post-mortem examination shows the pleura very highly injected, and the above-mentioned proliferation of the cellular tissue with destruction of the epithelium which simulates a false membrane; the pleural cavity contains a spoonful or two of fluid and some shreds of false membrane. A case of this form of pleurisy will be found in Andral's *Clinique* (the 18th); I have given the history of another in the *Art Médical.*

VARIETIES.—Pleurisy may be *double*, and this circumstance increases greatly its gravity; the effusion is always greater on one side than on the other. The dyspnœa is extreme, and the patients die of suffocation.

Pleurisy may be limited to the diaphragm, to the interlobular pleura, or to the mediastinum.

*Diaphragmatic pleurisy.*—The symptoms are the following: orthopnœa compelling the patient to retain the sitting posture, the body bent forwards; pain at the points of attachment of the diaphragm; two painful points, one along the course of the phrenic nerve betwixt the two inferior points of attachment of the sterno-cleido-mastoid muscle, the other situated at the intersection of two lines, one of which follows the direction of the external border of the sternum, whilst the other continues the osseous portion of the tenth rib; Guéneau de Mussy was the first who pointed out this diagnostic sign. The part of the diaphragm corresponding to the inflamed pleura is paralysed, so that on the affected side the abdomen seems to be retracted at each inspiration. The stethoscopic signs are obscure. Other things being equal, diaphragmatic pleurisy is much more serious than pleurisies situated on other parts of the pleura.

*Interlobular pleurisy* can only be diagnosed by the process of exclusion. Andral's *Clinique* contains the history of a case of purulent pleurisy occupying this seat, which was only discovered after death. The symptoms accompanying interlobular pleurisy are dyspnœa, a febrile movement having the character of that attending pleurisy and the pathological phenomena of internal suppurations. The absence of the signs that accompany diseases of the lung and pleura is a valuable diagnostic element in this case.

*Pleurisy of the mediastinum.*—This variety is very rare; it is known by a pain under the sternum, a greater or less degree of dulness in the same region; the heart may be covered by the effusion, in this case it is difficult to distinguish pleurisy of the mediastinum from pericarditis.

PHYSICAL SIGNS.—*Inspection, palpation, mensuration, percussion,* and *auscultation,* reveal the diagnostic signs of pleurisy.

*Inspection* shows us the immobility of the affected side, the widening of the intercostal spaces, the muscles of which are paralysed by the inflammation and bulged out by the effusion. *Palpation* lets us perceive the absence of the vibrations caused by talking in the side where the effusion is seated; it enables us also to ascertain the displacement of the heart, the liver, and the spleen. *Mensuration* affords us proof of the enlargement of the affected side during the period of effusion and its recession after the cure has been effected. *Percussion* elicits a *relative* dulness during the first days, an *absolute* dulness later when the effusion is considerable; at the same time we detect an exaggerated sonoriety in those parts of the lung lying above the effusion. This sign, discovered by Skoda, is chiefly observed about the level of the clavicle.

The *dulness* in pleurisy is heard over a space exactly corresponding to the boundary of the effusion; it generally describes a curve with the convexity looking upwards, the highest point being posteriorly, one of the branches rising from the spinal column and the other from the sternum. The variations in the level of the dulness correspond to the variations occurring in the quantity of the effused fluid. Percussion likewise indicates displacement of the heart, of the spleen, and of the liver. This last-named displacement is often considerable.

*Auscultation* furnishes several signs, the semeiotic value of which is not so precisely known as is that of the percussion sign. Often from the very first day we perceive a *bruit de souffle.* This sound is heard principally behind, it is superficial, and has a higher tone than the *souffle* of pneumonia; practice alone enables us to distinguish the one from the other. Along with this sound there is *bronchophony* in a high key. The *bruit de souffle* of pleurisy may last as long as the effusion; it may cease, when the effusion is very great or the pain very acute, to return at a subsequent period; this is the *returning bruit de souffle;* it announces the resolution of the effusion. Œgophony extends to the superior limit of the effusion, it is a tremulous resonance of the voice usually in a higher key; when the key is lower it is called *Punch's voice. Creaking* or *new leather* sound is the sign of complete resolution of the effusion; it is heard chiefly at the lateral and inferior region of the chest; we can also perceive it by applying the hand to the chest; sometimes the patient himself is aware of it.

In some circumstances not yet quite determined we observe in circumscribed spots *cavernous sounds,* rattles, souffle, and pectoriloquy. The complete and rapid recovery of the patients proves to us that there was no excavation of the pulmonary tissue in such cases.

For a long time after a cure has been effected the affected side is the seat of relative dulness, and the respiration there is more obscure.

ETIOLOGY.—The circumstances that predispose to pleurisy are all the causes of weakening, and particularly the state of convalescence, repeated pregnancies, and prolonged nursing.

The occasional causes are often not traceable. External violence, a severe chill, drinking cold liquids when the body is in a state of perspiration, a chill during sleep in persons sleeping out of doors or under tents, open windows in summer, &c., have been assigned as causes of this description.

TREATMENT.—*Common form.*—At the beginning the chief remedy is *Aconite* or *Bryonia,* according as the predominant symptom is intense febrile action or very painful stitch in the side. But neither of these remedies must be continued for long; from the third or fourth day when effusion has taken place we must give *Cantharis* 3rd dil., three drops in 200 grammes of water, a spoonful every two or three hours. This remedy should be continued several days, and if it fails to produce rapid amelioration we must go to the 2nd, to the 1st dilution, or even to some drops of the mother tincture. Many cases of cure by the last-named dose are on record: but in our practice the 3rd dilution has generally sufficed.

*Arsenicum*, *Sulphur*, *Senega*, *Hepar sulph.*, *Apis mel.*, are also indicated in the fully developed stage of pleurisy.

*Arsenicum* is especially indicated where there is great feeling of weakness and tendency to lipothymia; it may be given alternately with *Cantharis*. The 12th dil. usually suffices. The other medicines have not such precise indications; we generally give them when *Cantharis* fails; I once obtained a very rapid cure with *Apis* 3. Dr. Gallavardin gives the following indications for *Senega* and *Hepar*. *Senega* is indicated in subacute or chronic pleurisy, especially when complicated with heart disease, phthisis, or any description of cachexy. A tendency to anasarca is the characteristic indication for this medicine; *Hepar* is especially suitable in cases of purulent and sero-purulent effusion, particularly in pleurisy that has already existed a long time and threatens phthisis. The first triturations or the solid substance are recommended by several authors.

When the patient is threatened with asphyxia by the sudden increase of the effusion or by a concomitant bronchitis, *Arsenicum* is also indicated; but should this remedy not suffice we must have recourse to *thoracentesis*. It should be performed as follows: We take a trocar such as is used for hydrocele, the canula of which is furnished with a valve; we push aside the skin so as to destroy the parallelism betwixt the superficial and deep wound, and we plunge the instrument into the sixth or seventh intercostal space in the lateral region of the thorax. This is the best plan usually, but it may vary with the seat of the effusion and the displacement of the organs.

When the fluid has run out we withdraw the canula and cover the small wound with *elastic collodion*.

When the pleurisy has become chronic and the exudation has been transformed into pus, *Hepar sulphuris* and *Silicea* are the two chief remedies; but should they not suffice, and should the progress of the hectic fever lead us to fear a fatal result, we are warranted in having recourse to *thoracentesis;* only in this case it is best to use Guerin's trocar and syringe, because when the pus has been discharged it is necessary to make an injection of *Iodine*. This injection, the proportions of which may be increased in subsequent operations, should be composed at first of a third part of *Tincture of Iodine* to two thirds of water, and *Iodide of Potassium* in quantity sufficient to keep the *Iodine* in solution; here, as in the case of ovarian cysts, we would not advise the canula to be retained in the wound, but rather that the operation be repeated if the exudation recurs.

*Purulent pleurisy.*—We know but little respecting its treatment. At the commencement we should give *Aconite* 3 dil. or even mother tincture; if this remedy does not succeed in stopping the disease, it is probable that it will be rapidly fatal. *Arsenicum* should then be given, then *Hepar* when the acute symptoms have disappeared. The operation for empyema should not be performed unless the disease has become chronic. We have no clinical experience respecting the treatment of the *pseudo-membranous* form. *Bryonia* and *Cantharis* appear to be indicated both by the symptoms and the lesion.

The *mild* form requires the first days *Aconite* then *Bryonia.* The *latent* form is most frequently cured by *Cantharis;* we may also try *Apis, Senega, Sulphur;* sometimes thoracentesis is necessary.

HYGIENE.—The practitioner should not forget that persons affected with pleurisy are threatened with death by syncope; he should, therefore, take care that they keep the horizontal posture as long as a tendency to lipothymia remains. The patients should especially avoid sudden movements, for patients have been known to die on sitting up in bed, on putting their feet to the ground, on getting into a carriage.

At the height of the disease the diet should consist of beef-tea and milk; the quantity of food should be gradually increased as the fever declines and the appetite returns.

We have not devoted a special chapter to *pleuro-pneumonia,* that is to say to the disease characterized by the simultaneous existence of hepatization of one or several lobes of the lungs, and of considerable effusion into the pleura of the same side; these two diseases generally exclude one another. In the only case I can remember, which is recorded in Andral's *Clinique,* the effusion was confined to the lower part of the pleura, whilst the pneumonia was located in the upper lobe of the lung. Such cases are pathological rarities, which it suffices to notice, but which need not be described in an elementary work like this.

We have given this chapter at full length in order to give the reader a just idea of the character of Dr. Jousset's work, but we do not altogether agree with him in every point. Thus, as to the pathological anatomy of pleurisy, we doubt much if Dr. Jousset's explanation of the false membrane is the true one. The cellular tissue lies beneath the serous membrane, and according to the best authorities is not affected in pleurisy, therefore it cannot be by its "proliferation" that the false membrane is formed. The false membrane is a real exudation from the pleural surfaces, and the cellular tissue has nothing to do with it except in this way, that as the cellular tissue under the costal pleura is rich in blood-vessels these enable this pleura to throw out a larger quantity of secretion than the pulmonic pleura. Again, the term ecchymotic injection is not correct as applied to the vascular injection of the pleura at the beginning of pleurisy. We are, moreover, disposed to doubt the accuracy of Dr. Jousset's statement with respect to the rarity and fatality of pseudo-membranous or dry pleurisy. On the contrary, we are inclined to think that many of the slightest cases of pleurisy belong to this class, and pass off without the exudation of any appreciable quantity of fluid, and this not only in phthisical subjects, but in robust individuals. As to physical signs, we cannot admit that the rubbing sound observed in the beginning of pleurisy is of the character of the *bruit de soufflet*, or as Jousset we think incorrectly terms it, "*bruit de souffle*," that being a term properly restricted to one of the abnormal sounds of the heart. The rubbing sound in pleurisy has very happily been likened to the sound produced when we lay one hand flat on the ear, and rub with the moistened forefinger of the other slowly up and down the back of the first hand. This is a rubbing sound, but cannot be called a "bellows" or "blowing" sound. Again, the "new leather" sound is merely an intense "rubbing" sound, and is heard as often at the beginning as at the end of the attacks of pleurisy.

In a work of this sort it is perhaps as well not to encumber it with too many remedies, and we think Dr. Jousset is on the whole right in limiting himself to the mention of only a few of the best remedies for each disease, though he might easily have increased his list of real or supposed medicines for pleurisy.

On the whole we think highly of Dr. Jousset's work as a good book to put into the hands of a young homœopathic practitioner, and if it is not by any means exhaustive of the subjects it discusses, it abounds in safe practical directions, and is evidently the work of one who has had a considerable experience and is an intelligent observer.

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*Nouvelles données de Matière Médicale Homœopathique et de Toxicologie,* par le Dr. L. T. Houat de l'Ile de Réunion. Paris. J. B. Baillière, 1868.

*New contributions to the Homœopathic Materia Medica and to Toxicology*, by Dr. L. T. Houat of the Isle of Bourbon. Paris. J. B. Baillière, 1868.

This is a volume of 164 pages containing what are said to be provings of *Belladonna, Robinia acacia, Iodide of Potassium, Sarracenia purpurea,* and *Vetyver* (*Anantherum muricatum*). The proving of *Belladonna* was undertaken, according to the author, in the following manner. He was mortified to find that many persons even homœopathists doubted the pathogenetic power of medicines in infinitesimal doses, so he made an offer to the Homœopathic Society of France that he would tell the symptoms and the name of any medicine they chose to give him in the 15th centesimal dilution, without any hint whatsoever as to what the medicine was when he received it. The society accepted his offer and appointed a committee, consisting of Drs. Cretin, Leon Simon, jun., and Teste, who procured from the shop of MM. Catellan, the chemists, six medicines of which they were to select one, the name of which should be unknown to themselves, and only to be afterwards ascertained by the aid of a sealed envelope. This was arranged at the society's meeting of August 6th, 1866. Four days afterwards Dr. Houat received a phial containing a limpid tincture without any name and the following note. "My dear colleague,—

Here is the medicine *of which you are to tell us the symptoms and the name.* May you succeed! Yours, &c., Teste."

Thereupon Dr. Houat set to work and some months afterwards he sent his reply to the committee, which was opened at the meeting of 19th November, 1866. This reply contained a list of 393 symptoms said to have been produced by the medicine, the name of which was pronounced to be *Belladonna.* On opening the envelope corresponding to the number of the phial it was found that the name corresponded with that given by Dr. Houat. But the society seemed to have suspected something wrong, for a lively discussion immediately took place, the result of which was that Dr. Houat withdrew his manuscript, and it was decided that the report of the society should make no allusion to the subject. This decision was followed by the resignation of Dr. Houat and several other members.

This is Dr. Houat's account of the affair, and as we have seen none by the other side we must endeavour to elicit from Dr. Houat's own *ex parte* statements what could have been the real cause of this apparently unfair procedure on the part of the society.

Looking at the pathogenesis here given we are at once struck with the variety and gravity of many of the symptoms said to have been produced by the 15th centesimal dilution of *Belladonna* in the short space of three months. We subjoin a few:

Headache with burning miliary eruption all over the body. Congestion of blood to the head accompanied by epistaxis and brutishness (abrutissement). Head sometimes cold as if frozen, sometimes hot and burning. Eruption of hard, painful pimples on the scalp. Tettery eruptions with scabs, scales, and ulcerations, on the scalp. Nodosities like small exostoses on several parts of the head. Eyes inflamed, red, and injected with blood as far as the iris. Lachrymation and great photophobia, all light is intolerable. Eyes projecting, sparkling, furious, sometimes expressionless, dull and clouded. Eyes convulsed, turned upwards so that only the white was visible. Eyelids swollen, ulcerated, and mattery. Yellow colour of sclerotic. Styes on the upper eyelid. Pimples (elevures) and ulcers on the cornea. Strabismus. Objects appear double, upside down or crossways. Flow of purulent matter from the ears. Bleeding from the ears. Inflammatory swelling of ears and parotids. Ulcerations and scabs on the concha of the ear. End of nose red, swollen, and burning. Very frequent bleedings of the nose with throbbing pains in head, chiefly at night in bed and on waking in the morning. Small, red, very painful pimples on the tip of the nose. Ulcerations, scabs, and cracks in the nostrils and at the margin of the nose. Face pale, yellow, earthy. Face extremely thin, with unquiet and decomposed features. Erysipelatous swelling of the face; icteric tint. Miliary and measly eruptions and pustules like variola on the face. Tetters and pustules, especially on the cheeks, ulcerating and bleeding easily. Face full of wrinkles. Red, burning, very obstinate pimples, especially on the forehead. Lips large, chapped, full of phlyctenæ. Pimples and ulcers on the lips, &c.

We have given but a small sample of the symptoms alleged to have been produced by the phial of the 15th dilution of *Belladonna;* but there are many more equally striking objective symptoms of the most decided character. But how or on whom these symptoms were produced, the author does not care to inform us. All that he says on this point is the following:

"Now, in regard to the quickness or the strangeness of my reply on this occasion [that is to say—supposing any one should express astonishment at the short time he took to experience all these strange and various symptoms], I shall content myself with saying that the means employed by me are not more extraordinary than those used by Hahnemann. We both adopted the same mode of experimentation, to wit, subjected the medicinal substance to the sensitive and intelligent crucible of the human machine. But this marvellous machine, which requires still to be studied and to reveal itself, may be more or less disposed, more or less well known and directed; in this lies the secret of the slowness or quickness of the results obtained, but this is not otherwise the essential point. That consists in the exactitude of the results, particularly when, as in the present instance, they must be their own justification."

This sentence seems to show that the author pretends to some special acquaintance with the "marvellous machine" and its workings not possessed by ordinary mortals, whereby he is able to ascertain the pathogenetic effects of a drug in a space of time so short, and in quantity so small, as to surprise all ordinary observers.

As Dr. Houat obtains his results in this mysterious and occult fashion, it does not surprise us to find that he nowhere mentions who or what sort of individuals assisted him in his proving, nor what time after taking the drug the symptoms occurred ; nor in fact does he give us a hint as to the mode in which he subjected the drug to the "sensitive and intelligent crucible of the human machine." He insists on the "exactitude" of his pathogenesis, but says it is nothing to us to know how they were obtained. Now in this we differ from Dr. Houat entirely. We know nothing at all about the author except that he is a Bourbon creole, but we are not aware that he has hitherto done anything to show that we are bound to take his simple *ipse dixit,* and are precluded from inquiry into the genuineness of his pretended facts. If we can scarcely pardon the illustrious Hahnemann for having given us several pathogeneses without indicating the source of each symptom, we are not likely to accept from the obscure Houat provings where he has not indicated the source of a single symptom, and which for anything he says may be pure evolutions from his own inner consciousness, for we may observe *en passant* that all the provings in this volume are equally destitute of any indication whatsoever of their source.

We have no doubt that it was a consideration of the improbability of this being a genuine proving, and perhaps some other information respecting its author unknown to us, that led the French Society to reject Dr. Houat's solution of the enigma they had proposed to him. Until we can obtain some evidence of the genuineness of the other provings, we must refuse to look on them as a contribution to our knowledge of the action of the substances they profess to represent. The author professes to account for the strange and suspicious resemblance of the provings to one another by saying that such resemblance is common among polychrests, to which class of drugs his contributions belong, but he gives us no clue to the names of the martyrs to science who developed in their own persons the fearful diseases he mentions from cataract up to general dropsy.

Remembering the trick played on the homœopathic profession by the notorious Fickel and his pretended provings, we would intimate to Dr. Houat that if he wishes to obtain credence for his pathogeneses he cannot be too circumstantial in informing us respecting the how, when, where and on whom his alleged experiments were instituted. Until he does so he cannot be surprised if the profession look upon his work with suspicion and dislike.

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## CLINICAL RECORD.

### *Senega in Lung and Bladder Affections.*

Dr. Kallenbach publishes in the *Popul. Hom. Zeitung,* 1867, No. 12, the following striking case of the cure of a severe inflammation of the lungs. A woman, æt. 56, was seized with pneumonia on the right side, with violent stitches, dyspnœa, frequent cough, with rusty, frothy sputa, and sharp fever. *Aconite* and *Bryonia,* followed by *Phosph.* and *Sulph.* were of no avail. On the twentieth day the following symptoms came on: sinking of the strength, small, scarcely perceptible pulse, short, rare coughs without expectoration, and at the same time great rattling of mucus, somnolence, dejected features—in short, such a bad state that in the evening the doctor predicted she would die during the night. He gave *Senega* 1, after the second dose of which copious expectoration ensued. The patient recovered in ten days.

In the same place it is recorded that a parish doctor had saved the lives of more than 100 patients affected with adynamic pneumonia. *Senega* is, at the same time, said to be the prince of expectorants, and an excellent remedy in the mucous coughs of old people who bring up a great quantity of watery mucous matter.

It struck us as remarkable that, in the above-mentioned article, no mention was made of another disease for which *Senega* is of great use—we mean vesical catarrh. Kafka makes no mention of it; Bähr only does so in an incidental manner; Hirschel alone lauds its good effects. And yet its physiological effects show it to be one of the principal remedies for this disease. We have had three opportunities of observing splendid cures with *Senega;* two of them were chronic cases, one a subacute case of vesical catarrh, which two forms are most suitable for *Senega.* The symptoms were as follows: frequent urging to make water, and frequent scalding in the urethra, both before and after passing water; the urine loaded with mucous threads. It seemed to be a matter of indifference for the selection of *Senega* whether the urine was alkaline or not in these cases of vesical catarrh. The chief thing is to remove the catarrhal condition; when that is done the urine becomes again normal. The alkaline reaction is caused solely by the diseased vesical mucous membrane. The urine on leaving the kidneys has generally a normal acid reaction, but when it passes over the diseased mucous membrane it gets an admixture of the alkaline secretion of the inflamed mucous membrane, whereby it becomes alkaline itself and deposits earthy phosphates. Hence the allopaths labour in vain when they endeavour first to remove the alkaline reaction; the acids (*Benzoic, Muriatic, &c.*), are generally given in very heroic doses for this purpose, but the urine, as the allopaths themselves confess, only gets a very transient acid reaction. Sir Henry Thompson (*Diseases of the Prostate*) says that he has obtained better results from the employment of decoction of *Senega* in chronic vesical catarrh than from any other remedy. May not *Senega* be of use in leucorrhœa and gonorrhœa?—*Neue Zeitsch. f. Hom. Klinik.*, 15 Nov., 1868.

## *Rapid Cure of Sore Throat.*

At the last meeting of the Central German Homœopathic Society held at Eisenach in August last, Dr. Bolle, of Aix la Chapelle described a startling mode of curing sore throat in a few minutes. We give his own words. Being called on by the President to give an account of his method, he promptly replied:

"I willingly comply with the President's wish, and will merely repeat what I said respecting this mode of treatment a year and a half or two years ago,—I think in 1866. I had long been vexed to find that that common disease, simple sore throat, was so hard to cure in spite of the number of remedies recommended for it. I tried *Bell.*, *Merc.*, *Rhus*, *&c.*, but none of them would cure. All at once a great many cases occurred in my practice, so I directed all my attention to find a cure. I went about the matter methodically, and tried first one remedy and then another, from high dilutions through every degree of strength, but all was of no avail. At length I came to *Mercurius*. There are several preparations of this drug, and it was a question if I should try them all. I did so, and at last came to *Corrosive Sublimate*. Thus, in a period of seven years, I had thoroughly tested every remedy. At the end of that time a boy came to consult me who had an affection of the tibia, and complained also of something the matter with his throat. I had already tried for sore throat *Merc. corr.* in the 3rd, 4th, and 6th dilutions, and I believed with some success. The boy had not a true sore throat, but I chose *Merc. corr.* in the 2nd potency and painted his uvula with it. This had such an effect that immediately afterwards the boy began to hawk in his throat and to spit, so that I at once perceived that the effect of *Merc. corr.* must be considerable. For the same symptoms occurred as we meet with in sore throat, although, as I have before said, the boy had no true sore throat. This led me to employ *Merc. corr.* in the next case of true sore throat—and I used it in the 1st dec. potency, dissolving 1 part of *Merc. corr.* in 5 parts of alcohol, but it may also be dissolved in 10 parts. With a portion of a drop of this 1st dec. potency of *Merc. corr.* I moistened the point of a glass rod, and used it either wet or allowed it to dry, when it was equally successful. I applied the point of the rod to the uvula, and to its right and left on the velum, and I assure you that you have scarcely time to cork your bottle and put it away in your cupboard when, if you ask the patient to try to swallow, he does it without any difficulty. Since that time I employ no other remedy. I employed it in the case of Dr. Molly, of Altenburg, whom I may now reckon one of ourselves. He was much surprised, and led thereby to the study of homœopathy. I can also tell you of another interesting case. I had a great desire to convert the Director of the Aix la Chapelle Hospital to homœopathy, and in order to show him a very striking result I accompanied him to a patient ill with sore throat. I told him he should be convinced, so I allowed him to examine the patient and then asked him how long he would take to cure such a case. He replied, 'The disease would yield in a few days.' I said, 'I will cure it in a few minutes.' I touched the patient's throat—he was about twenty-three years old—and then asked the director to look again into his throat. The uvula had suddenly contracted and become small. I now asked the director to inquire of the patient if he could swallow. The patient did so with ease—he was quite well. The director was extremely astonished at the result."

Some member asking what kind of sore throats, whether acute or chronic, he cured in this way, Dr. Bolle answered, "It is all the same what sort of cases you have to treat. Cases that had lasted six or even twelve months were cured in a single minute. Only when the tonsils are at the same time swollen the remedy is of no use; otherwise I vouch for its efficacy."—*Allg. hom. Ztg.*

[This last clause is rather a damper, for we seldom see a sore throat of any severity where the tonsils are not involved.—EDS.]

### *Amputation of the Leg.* By Dr. HASTINGS, Surgeon, &c.

A lady, æt. 64, on the 19th October, 1867, when getting out of a railway carriage at the station, stumbled and fell under the carriages. On being extricated she said "she was not hurt," and walked up a long flight of stairs, off the platform, into a cab. She had not, however, been long in the cab until she felt her right foot painful, attended by a feeling of faintness. On reaching her home, having had about a mile to travel, her foot became very painful, and on its being examined, the inside of the boot was burst and blood and flesh were protruding. I was immediately sent for, and on arriving found the lady lying very faint and pallid on a couch, suffering from great pain in the foot.

Upon cutting off the boot and stocking, I saw that the first and second phalanges of the great toe were completely smashed, the flesh much torn on the other toes, and extensive bruises all over the metatarsal bones. I at once amputated the first and second phalanges, without giving the lady the least pain, owing, I presume, to the benumbed condition of the parts from the manner in which they were smashed. After dressing the wound I applied a compress all over the part saturated with *Calendula lotion*, and gave the patient *Arnica* to be taken every three hours.

I ought to have mentioned that the lady is very delicate, having had much illness and borne many children.

October 20th.—Passed a tolerable night; had some sleep; foot not very painful, inflamed, and swollen. Continue lotion and medicine.

21st.—Dressed the toes. To continue medicine.

22nd.—Third day after accident. Last night no sleep, very feverish, toes painful and discharging bloody pus. On removing the dressing the instep was of a bluish hue, the toes also looking darkish; on pressure the instep exhibited but little sensibility to the touch. Not liking the whole appearance of the foot, I expressed my dissatisfaction to the family and said that I feared mortification had set in, and that an operation would be necessary, and on a consultation with Dr. Yeldham, he confirmed my opinion, and we agreed to amputate the foot at once.

A carbolic acid lotion was applied in the mean time.

23rd.—The gangrene much extended, and sensibility almost gone all over the instep.

The lady being put under chloroform administered by Dr. Mackechnie, the foot was speedily removed by Drs. Yeldham, Hughes, and myself, the former skilfully making the incisions for the single flap operation. The patient was quite unconscious of pain; there was very little hæmorrhage, and we had only the tibial and peroneal arteries to ligature, which was done with silver wire. The wound was dressed in the usual way, using silver-wire sutures.

The patient being put to bed still unconscious, the limb was laid upon a pillow, and a water-compress applied to the stump.

The effects of the chloroform remained for some time, and consciousness did not return until two hours after the operation, when the usual after effects were experienced by the patient, viz., giddiness, nausea, incoherent talking, seeing spectres in the room, &c.

In the evening, six hours after the operation, the patient was very feverish, and the stump was in great pain. I raised the stump by putting another pillow under it, which at once gave temporary ease, and prescribed *Aconite* every hour, in teaspoonful doses, the stump to be kept cool with cold-water compresses.

The chloroform symptoms very great; not in the least abated.

24th.—Had a little sleep last night, but very feverish. This morning great thirst, headache, leg and stump very tender, painful and inflamed; temperature of leg 90°. Habt. *Acon.* and *Arn.*, in alternation, every two hours, with *Arnica* lotion to the stump.

In the evening still feverish, faint, and in much pain; the chloroform symptoms most distressing. The *Arnica* lotion to be continued, and *Tart. ant.* every two hours; beef-tea and light food to be given.

25th.—Passed a tolerably comfortable night; not so much pain in stump; temp. 82°. Continue *Arnica* lotion and *Tart. ant.*, three hours.

Evening.—Had a little sleep during the day; slight discharge from the wound. *Calendula* lotion and *Acon.*, three hours.

26th.—A tolerable night; stump painful; chloroform symptoms not abated; the wound healthy. Continue medicine.

Evening.—A restless day, rambling; bowels confined. *Opium* every two hours, and lotion to be continued.

30th.—During the last four days there was nothing much to notice, as the patient continued much as previously. To-day, however, suppuration began very extensively. The bowels were relieved on the 28th.

Dressed the stump with a lotion of *Liq. Carbonis Detergens,* one part of *Liq. Carb. Deterg.* to six parts of water. *Arsen.* every four hours, and butcher's meat twice a day. The patient cannot use any wine, as it always disagrees.

The chloroform symptoms as distressing as ever. Convinced that these interfered much with the progress of the patient, and being, at this time, much occupied with the subject of oxygen gas inhalations in chest affections, and knowing that Ducroy, from a large experience, had stated in the Academy of Paris that the action of oxygen was antagonistic to that of chloroform, I determined to make my patient inhale oxygen from one of Dr. Biegel's inhalers, and check, if possible, this distressing chloroform narcosis, and I am thankful to say that the result was in every way satisfactory, as in a few minutes after inhaling the oxygen all the disagreeable symptoms of the chloroform subsided and did not return for some hours, and in about a week entirely disappeared, the oxygen being inhaled twice a day.

I may here remark, *en passant,* that if oxygen gas were used after the administration of chloroform in our hospitals—if it is not used—it would, judging from this case, be a great boon to the poor sufferers. I may also remark that the lady derived so much benefit from the oxygen generally that its inhalation was continued once a day, for ten minutes, during some weeks. I shall have to notice by-and-by the good effects of oxygen; meantime, after this little digression, I shall continue the history of the case.

31st.—Stump suppurating freely; patient more comfortable. *China* every three hours, and as much nourishment as she can take.

November 1st.—Complains to-day of great flatulence; very uncomfortable; feels as if she wanted to evacuate the bowels, but cannot; headache, &c.; stump suppurating very much. *Assafœtid.* φ five drops every two hours.

Evening.—Bowels relieved, and she is much more comfortable, having had two hours' sleep. No alteration in the stump.

2nd.—Restless; stump tender and red, appears as if an ulcer were forming over the tibia. Compress saturated with *Liq. Carb. Deterg.* lotion; medicine to be continued.

5th.—Symptoms of pyæmia; suppuration much diminished, restless, feverish,; ulcer over tibia irritable. *Arsen.* three hours, and to try a little port wine.

9th.—Much the same; nights unrefreshing; stump very painful, discharging more; ulcer larger and tender. Dressed it with Dr. Richardson's styptic colloid. Medicine and oxygen to be continued.

14th.—The styptic colloid did not suit; caused much pain and inflammation in the ulcer. Dressed wound and ulcer with *Calendula* cerate.

Ligatures of the arteries only came away to-day, twenty-second day after amputation, accompanied by a great discharge of healthy pus. Had often tried to get the ligatures away, but could not. Several of the sutures had previously separated.

Feverish, and in much pain; cannot bear the stump to be either moved or touched.

27th.—Since last notice the patient continued much as usual, only the ulcer extended both in size and depth, running between the tibia and fibula, forming a sinus of five inches in length, discharging copiously. The wound from the amputation was healthy.

It had been dressed of late with a bread poultice, saturated with *Liq. Carb., Deterg. Lotio.*

Not liking the aspect of the stump, I had Dr. Yeldham to see it, and we agreed to give *Quinine* in grain doses every three hours, and inject *Calendula* lotion into the sinus, and to hang the leg, as Dr. Yeldham thought this position advantageous to permitting the exit of the discharge.

30th.—Much venous congestion in the stump, and great pain. The hanging of the stump did not suit; put it in its former position, the discharge still the same; sinus no smaller. Injected into sinus about a drachm of *Liq. Carb. Deterg.* lotion, and applied a poultice. Continued the *Quinine.*

December 2nd.—Injected sinus each day with the lotion. To-day a large core came away. Sinus about four inches deep. Medicine to be continued.

14th.—Up to this date the patient progressed favorably under the above treatment, but unfortunately a little ulcer made its appearance to-day on the outside of the tibia, near to the wound.

On probing it I found that it had a sinus two inches deep. Injected it at once with the above lotion. Poultice, medicine, and lotion to be continued.

21st.—Doing very well. Ulcers very healthy, and not so much discharge. General health improving.

Same treatment to be continued.

30th.—Still progressing very favorably.

January 17th, 1868.—No unfavorable symptom to record since last report. The ulcers healed well, and the wound from the amputation was now quite united, and the patient was able to leave her bedroom, and come into the drawing-room on the same floor.

The stump, under all the circumstances, considering the spare habit of the patient, the great suppuration, &c., is a very good one, and is of a nice conical shape. It is not at all tender, and she now hops about on crutches without any inconvenience to the stump.

*Remarks.*—From the above case it will be seen how rapidly the injection of the lotion of *Liq. Carbonis Detergens* checked the progress of suppuration and healed up the sinuses.

I was induced to try this on account of the healing virtues which it has in old indolent ulcers, many of which I have seen it cure after years of ordinary treatment.

It will be observed that on the 5th November, about seventeen days after, the accidental symptoms of pyæmia appeared, and it is my conviction that these would have continued to an alarming extent had it not been for the inhalation of the oxygen gas every day. I believe pyæmia, as its name implies, is caused by pus being absorbed into the blood, notwithstanding Virchow's opinion to the contrary.*

Now oxygen is, I believe, antagonistic to pus, and pus cannot possibly remain in the blood if oxygen gas be inhaled.

To this I presume may also be attributed the good results which we sometimes see from its inhalation in the suppurative stages of phthisis, and to it also may, in a great measure, be due the undoubtful efficacy of the "Great *Sulphur* Cure" in cases of suppurating wounds, &c., as there are in *Sulphurous acid* equal proportions of oxygen and sulphur.

Had the pyæmic symptoms in the above case disappeared under

* *Cellular Pathology*, p. 195.

the treatment pursued I should certainly have tried the *Sulphurous acid* internally in the form of spray, and externally as a lotion, on the principle *ex nihilio nihil fit;* as from my own experience with this medicine I believe it impossible for pus to exist simultaneously with the use of this medicine.

Dr. Dewar in his pamphlet on *Sulphurous acid* says, "that it would have cheered the heart of Hahnemann to have seen the amount of success from *Sulphurous acid* in this disease, phthisis, who in his time wrote, that to *Sulphur* we must look for the antidote to this scourge."

It would be interesting and useful to have a proving of this medicine.

*Sulphurous acid* fumes being much used in Dunstable and its neighbourhood in bleaching the straw used in plaiting, I should like to know if any medical men residing there have ever noticed any symptom produced by it upon those who thus used it.

We all know how the fumes of *Phosphorus* affect the poor matchmakers. Have the fumes of *Sulphurous acid* been known to cause any similar effects?

When leisure permits my intention is to publish some cases in which I have used this medicine with much success, where pus was the enemy that had to be expelled.

It is twelve months to-day, 23rd October, 1868, since the leg was amputated, and the lady is quite well and has been using for months an artificial leg, which enables her to walk with comparative comfort.

## *Rhododendron in Prosopalgia.*

Baron H—, a Hungarian nobleman, had suffered for a long time from face-ache of the most violent description. It spread over the right side of the face from the teeth, and especially the gums, and radiated over mouth, eyes, and ears; was equally violent day and night, when moving or when at rest, aggravated by wind and changes of weather, ameliorated by warmth. The pains were of the following kind: drawing, tearing, jerking. It was remarkable that the pain quite went off for some time when eating and soon afterwards. There were no other complications. The patient was slender, delicately framed, of sensitive constitution, otherwise healthy. He had formerly frequently suffered from similar pains in spring and autumn, but never of such violence nor so long continued as this winter (February), when he put himself under my care. He had long been under the care of an excellent homœopathic doctor in Vienna, but had derived no benefit. As he had several carious teeth, and his evidently rheumatic neuralgia was ascribed to their presence, he had had them extracted, but without any good effect; and so he came here with the same pains he had suffered from in Vienna. I remembered an observation of Dr. von Villers with respect to this remedy to the following effect:—"*Rhod. crys.* is useful in toothaches caused by a chill which bear heat better than cold, especially *when the pains go off suddenly and completely when eating, and recur two or three hours thereafter.* My patient's pain, which was located more in the face than the teeth, had nothing pointing to *Rhododendron* except this characteristic condition. I immediately prescribed the 1st dec. dil., two drops night and morning. After the first dose he had a quiet night (the first for many weeks), and the third day of using the medicine all pain was gone. In Noack and Trinks we find under *Rhododendron* the following symptom:—"Violent drawing pain in the teeth and lower jaw of the right side by eating removed." (Hirschel in *N. Zietsch. f. Hom. Klin.*)

## *Digitalis in a Curious Affection of the Head.* By Dr. Dudgeon.

In August, 1867, a gentleman, æt. about 28, consulted me for some symptoms connected with his eyes, and in addition he informed me that for eighteen months he had been troubled with a very odd and annoying symptom. Every night on going to sleep he is suddenly awakened with a start by a loud metallic crash in his head. This is frequently repeated three times before he finally falls into undisturbed sleep. As the eye symptoms appeared to me most important, I prescribed some medicine for them, which removed them, and I saw nothing of my patient until December, 1867, when he applied to me about some palpitation which annoyed him. The noise still continued as before. I prescribed *Ignatia* for his palpitation, which had again the desired effect, and I saw no more of my patient until March, 1868, when he consulted me about his eyes, which were once more troublesome. He again visited me ten days afterwards, and as his eyes were not then quite well, I prescribed something for them without reference to the noise in the head which still bothered him. I may state that before he consulted me first, he had been long under the care of a homœopathic practitioner. I saw no more of him until November, 1868, when he came and told me he had, since visiting me, been under the care of a distinguished homœopathic physician for this noise in the head, which however plagued him as much as ever. As his complaints were now limited to this single symptom, I sought for a parallel to it in our pathogenetic records, and found under *Digitalis* the following: Symptom 73, "A sudden cracking crash in the head during the siesta, with frightful start." This seemed so exactly to correspond to the patient's symptom, that I felt confident that *Digitalis* would cure him. I accordingly prescribed it in the 30th dilution, a dose to be taken every night and morning. Ten days later he called on me and reported that his trouble was just as bad as ever. However, I did not lose conceit of my remedy, and felt assured that it was the right one, though, perhaps, not given in an appropriate dose. I accordingly prescribed it now in the 1st centesimal dilution, a drop three times a day. He came eighteen days afterwards, and reported that while taking the medicine the noise had gradually grown fainter and at last ceased entirely to trouble him; but that the last two nights it had returned. I ordered him to continue the medicine until the noise again ceased. After this the noise completely left him, and now more than a month has elapsed without any return of this apparently trivial, but really very distressing symptom; except that after working hard until late at night he is sometimes subject to a not disagreeable "swooning" sensation in the head, but no noise or crash of any kind. I may be permitted to add that the first part of the *New Repertory*, called *Pathogenetic Cyclopædia*, is the only repertory that I am acquainted with where this symptom of *Digitalis* could be found, which it was with the utmost rapidity.

# MISCELLANEOUS.

## *Medical Intolerance in New Zealand.*

*(To the Editors of the British Journal of Homœopathy.)*

Colonial Secretary's Office,
Nelson, N.Z.; *Sept. 3rd,* 1868.

Gentlemen,—I send with this copies of a correspondence which has lately gone on here and which will show you and—if you think proper to print it—the readers of the *British Journal* that the spirit of medical bigotry is the same at the Antipodes as in Europe. A few remarks will be required to make the letters intelligible.

The medical board is a body constituted under an Act passed last year, having for its object the registration of legally qualified practitioners. The functions of the board, which by the Act may have one third of its number non-medical, is simply to collect the names, verify the diplomas, &c., and publish an annual list. For the convenience of the profession, and that they may not risk loss of documents by sending them to Wellington, an assessor (who must be a medical man) is appointed by the governor in each province to inspect the diplomas and certify their correctness to the Board, the resident magistrate being associated with him in this duty. In this province Dr. Cusack was the first assessor, but he settled at Wellington a few months ago, joined the Medical Board, and resigned the other appointment, which I may mention is as nearly as possible an honorary one. He mentioned my name amongst others, as eligible to succeed him, but no sooner was my appointment gazetted than he joined with other three members of the Board in writing the insolent letter No. 2 in the enclosed correspondence. I am glad to say that none of the Nelson practitioners had anything to do with it, and I believe quite approved of my appointment. So did Dr. Hector, F.R.S., the Director of the Geological Survey of New Zealand, who is president of the Medical Board. I have sent you all the letters in my possession, but I understand two more passed between the Colonial Secretary and the Board. The upshot was, that the recalcitrant members were obliged to resign, leaving me master of the situation.

I am, &c.,
F. W. Irvine.

No. 1.

"COLONIAL SECRETARY'S OFFICE,
"WELLINGTON; *May 1st*, 1868.

"SIR,—I have the honour, by direction of Colonel Hamilton, in the absence of Mr. Stafford, to transmit to you the accompanying copy of a letter from Messrs. Johnston, Cusack, Grace, and Boor, and of the reply thereto, in order that you may have an opportunity of making such comments on the letter first referred to as you may consider necessary.

"I have the honour to be, Sir,
"Your most obedient servant,
"W. GISBORNE,
"*Under Secretary.*

"Dr. IRVINE, Nelson."

No. 2 (enclosed in No. 1).

"WELLINGTON, N.Z.; *April 16th*, 1868.

"SIR,—We have the honour to state for your information that it is in every sense repugnant to the feelings and principles of medical men, regularly practising, to be brought into communication with doctors, though legally qualified, irregularly practising.

"Therefore we have the honour to inform you that the appointment of Dr. Irvine, Homœopath, as assessor, is very offensive to us and all the profession, and accordingly feel bound, respectfully, to request that you will be pleased to cancel that appointment.

"We have, &c.,
"ALEX. JOHNSTON, M.D.
"S. A. CUSACK, M.B.
"MORGAN S. GRACE, M.D.
"LEONARD BOOR.

"*To the Hon. the Col. Sec.*"

No. 3 (enclosed in No. 1).

"COLONIAL SECRETARY'S OFFICE,
"WELLINGTON; *April 30th*, 1868.

"GENTLEMEN,—I have the honour, by the direction of Colonel Hamilton, in the absence of Mr. Stafford, to acknowledge the receipt of your letter of the 16th inst., in which you request the cancellation of the appointment of Dr. Irvine as medical assessor at Nelson, on the ground, as you state, 'that it is in every sense repugnant to the feelings and principles of medical men, regularly practising, to be brought into communication with doctors, even though legally qualified, irregularly practising.'

"Copies of the correspondence will be sent to Dr. Irvine, as it is only just that the person whose medical practice is impugned, and whose official appointment it is sought to have cancelled, should have an opportunity of commenting on the reflections cast upon him.

"I am at the same time to state that Dr. Irvine is one of the persons mentioned by Dr. Cusack in his letter resigning the office in question, and mentioned, without any hint of ineligibility, as one of the medical men practising at Nelson who would probably accept the office which Dr. Cusack vacated. The government is not aware of any irregular practice in medicine on the part of Dr. Irvine, whose appointment the governor was advised to make by Mr. Stafford, after consultation with Dr. Hector, the president of the Medical Board. "I have, &c.,

"W. GISBORNE,
"*Under-Secretary.*

"Messrs. A. JOHNSTON.
"S. A. CUSACK.
"M. GRACE.
"L. BOOR."

No. 4.

"NELSON; *May 9th*, 1868.

"SIR,—I have the honour to acknowledge the receipt of a letter dated the 1st inst., from the Under-Secretary in your office, enclosing a copy of a communication from Drs. Johnston, Cusack, Grace, and Boor, in which they request, in view of alleged irregularities in my practice, that my appointment as medical assessor in this province may be cancelled; also the reply to the said letter which Colonel Hamilton directed to be sent. Mr. Gisborne further intimates that an opportunity is afforded me of making such comments on the former of these enclosures as I may consider necessary.

"In reply, I beg to state that I entirely deny that my practice is, or has been characterised by any irregularities whatsoever. Irregular practice consists in the exercise of medical functions without a legal right to do so, which is not my case, for I have registered a double qualification; or in obtaining patients by dishonest or disgraceful means, with which I am neither charged nor chargeable.

"I freely admit that I believe in Homœopathy, and accordingly practise it, which appears to constitute my offence in the eyes of the memorialists; but I contend that I have as much right to do so as any of those gentlemen has to act on the system he prefers; and that every practitioner is legally permitted, as he is morally bound, to act on his own convictions, and not on those of any other man.

"The demand proffered by the memorialists appears to proceed on a misconception of the relations of the state with the profession. The state knows nothing of medical theories and controversies; it neither prescribes nor proscribes any system of practice, and is equally open to confer office and honours on medical men of every shade of opinion, on the sole condition of their personal eligibility.

"While Messrs. Johnston, Cusack, Grace, and Boor have a perfect right to express their own opinion regarding my appointment, they are premature in constituting themselves the exponents of 'all the profession,' and in particular, do less than justice to the profession in this province, who are chiefly concerned in this matter. The Nelson practitioners, while not agreeing with me as to the truth and value of homœopathy, have too much good sense and good feeling to make a conscientious divergence of opinion a ground of offence. For seven years my relations with them have been those of amity and good-will, of mutual respect and esteem; and such I believe they will continue to be, notwithstanding the action of these four Wellington practitioners.

"When I had occasion to call Dr. Cusack into consultation, during his residence in Nelson, that gentleman never evinced any 'repugnance' to enter into communication with me, but on the contrary displayed a cordial alacrity; I was therefore surprised to see his signature appended to the letter in question, for though I am well aware of the narrow and bigoted spirit which characterises medical corporations in all ages and countries, I could not have believed, prior to experience, that this morbid mental condition could have been generated with so great a rapidity, as it has been in Dr. Cusack, since he took his seat at the Board.

"In conclusion, I venture to express a hope that, on a due consideration of the circumstances, his Excellency's government will see fit to advise my retention in the office to which I was appointed after mature deliberation, and with the entire concurrence of the president of the Medical Board..

"I have, &c.,
"F. W. Irvine, M.D., M.R.C.S., Ed.

"*The Hon. the Colonial Secretary*, Wellington."

## *Homœopathic Experiments.* By Dr. WILKS.

In *The Practitioner* for December, 1868, there is a short article on *Aconite* by Dr. Wilks. After a few prefatory remarks on the state of the capillaries in inflammation and the action of medicines on them, and on the nerves supplying them, he gives the cases which we subjoin here. The introductory remarks seem to us very poor and superficial after the treatment of the subject by Fletcher, and recently by Dr. Reith and Professor Behier. He adds also this sentence before proceeding to the cases. "As regards *Aconite* I am acquainted with two medical men who in the course of a long practice have been in the habit of daily using it, but have not cared to speak of it too openly for fear of having their names associated with members of an eminently quack system; and it may be remembered that the late Mr. Liston brought no little odium upon himself on account of his advocacy of the use of this drug in erysipelas" (p. 334).

As the cases reported are simply examples of homœopathic treatment, though not of the best, it would be affectation to pretend not to see that he [alludes to the members of our school. We could not have conceived the possibility of such a display of meanness of spirit on the part of men pretending to the position of men of science and of gentlemen as is shown by Dr. Wilks and his two friends, did we not remember the sad example of Bacon, "the greatest, wisest, meanest of mankind."—[Eds.]

*Pneumonia.*—John D—, æt. 17, admitted into the hospital, December 31st, 1867. He was a healthy lad, and by employment a groom. Three days before admission he was exposed to wet and cold, when he was seized with a shivering fit and catching pain in the side, followed by great headache and loss of appetite. On admission his appearance at once denoted the malady from which he was suffering; his face was flushed, his breathing quick and catching; and in a high state of fever; pulse 88. At the lower part of the left side the chest was dull on percussion, and there was ægophonic bronchophony. He was ordered to take three drops of tr. *Aconiti* every four hours, and to be put on low diet. On the following day, January 1st, he was not seen, but on January 2nd the change in his appearance was most marked, and it was at once evident that the inflammatory process had ceased; he had regained his natural look; the skin was cool, the tongue clearing; the pulse 60. An examination of the chest showed that there had been no advance of the pneumonia, but that the affected part was recovering itself.

The medicine was omitted; he made a rapid convalescence, and left the hospital well on January 13th.

*Acute rheumatism.*—Frances C—, æt. 15, admitted to the hospital July 17th. All the joints swollen red, and so acutely painful that an accidental jarring off the bed forced her to cry out; and with this all the other usual symptoms of rheumatic fever; pulse 104. She was ordered two drops of the pharmacopœial tincture every three hours, and to be continued regularly through day and night. This was done and administered without intermission during the day and night of the 18th, and during the day of the 19th. In the evening she became delirious and so strange in her manner that the house surgeon was sent for, and ordered a placebo. He informed me on the following day that he believed she was hysterical, and was quite unaware that she was the subject of acute rheumatism, as he found her lying on her side with her hands over her head, screaming out and moving about in a manner which is seldom seen when the joints are inflamed or painful. When I saw her on the following day I observed a strangeness and restlessness in her manner; and she complained of a burning in her throat and a pain in her back, but all trace of the rheumatism was gone.

I had no hesitation in attributing the new symptoms to the effects of the remedy. She subsequently had a slight pain in the ancle and wrist, and then rapidly convalesced. She was walking about the ward on August 1st.

*Acute rheumatism.*—John M—, æt. 16, admitted September 23rd. He had been ill three days with febrile disturbance and pains in the limb. I was unable to say whether it was the onset of rheumatism or merely a "bad cold," which is technically called "febris catarrhalis rheumatica." He had had rheumatism before, and there was present a slight systolic murmur; *Saline* only was ordered. On the 24th he was much worse; he had a sweating skin, with the characteristic rheumatic odour, with pains in all his joints, and pulse 104, temperature 102°, and the case was now clear. He was ordered five drops of tr. *Aconiti* every four hours, night and day. I did not see him on the 25th, but on the 26th I was much struck with his altered condition: instead of finding the disease more developed, the pains in the limbs had diminished, and the fever was disappearing; the most striking fact being that the pulse was 64, having been reduced by 40 beats, the temperature 99°. He had taken ten doses of the medicine. I now ordered it to be taken only three times daily. He continued to improve and on the 26th appeared tolerably well; pulse 60. He then omitted the *Aconite* and continued to convalesce; when, on October 8th, being dissatisfied at taking no medicine, I ordered him some *Quinine*. On October 12th he said he was very unwell, and I then ordered him an aperient. On October 15th, I found him in bed with a relapse of the rheumatism, complaining of all the symptoms as on admission, pains in the joints, hot and sweaty skin; pulse 124. I again ordered tr. *Aconiti* to be taken every four hours. I did not see him on the 16th, but on the 17th all the febrile symptoms were subsiding, and the pulse was down to 80. On the 18th it was 72, when I omitted the medicine. After this he convalesced and left his bed, though he still complained of occasional pain in the knee or wrist. His pulse was now always between 80 and 90.

*Whooping-cough (?) and bronchitis.*—Caroline C—, æt. 20, admitted May 31st; had been ailing with a severe cough for two months, and what her medical attendant believed to be pertussis. She had got very thin, had considerable dyspnœa, face dusky, and eyes swollen; had severe paroxysms of coughing, which lasted some minutes, in which she whooped, and followed by the expectoration of a large quantity of purulent phlegm. She occasionally vomited and spat up some blood. I ordered her tr. *Belladonnæ* ♏x every four hours. She gradually became worse, and on June 4th I found her sitting up in bed with much dyspnœa, cheeks and lips livid, mucous râles throughout the chest, tongue furred; pulse 144. I now ordered her tr. *Aconiti* ♏iv every four hours. June 5th, seemed little better; pulse 140, respiration 37. June 6th, decidedly better; pulse 100. On June 8th, still improving, although expectorating very much. In a few days the cough less, and patient altogether better, some *Cascarilla* mixture was ordered, and she gradually gained strength and flesh, and left tolerably well at the end of the month.

*Chronic catarrh.*—A gentleman came to my house complaining of a bad cold which he had had for two or three weeks, and could not get rid of; he had running from the nose and eyes, with pain over the forehead, as is seen from the effects of *Iodide of Potassium.* He had taken all the ordinary medicines without effect, and therefore I thought it a good case to make trial of the *Aconite*, which I ordered him in ♏v doses every four hours. He called on me three days afterwards, when all the symptoms were subsiding.

It is probable that *Opium* might have had the same effect.

## *Homœopathic Pharmaceutical Society.*

A meeting of the Homœopathic Pharmaceutical Society of Great Britain was held at the temporary offices, 445, Strand, on the evening of the 1st December, at which the circulars issued under the authority of the Pharmacy Act committee were discussed, and a resolution passed expressive of the desire of the Society to endorse the recommendations they contained, and at the same time thanking the Committee for its deliberation on behalf of the trade.

It was resolved to invite assistants to homœopathic chemists in London to attend the monthly meetings, at which papers will be read on matters connected with pharmacy.

Up to the present time the Society has held its meetings on the first Tuesday in each month. Under this arrangement country members were unable to see any report of the proceedings until published in the homœopathic serials on the first of the following month; therefore it was decided that for the future the ordinary meetings shall be held on the *third Tuesday in each month.*

In accordance with this new arrangement there was another meeting on the 15th December. It was then resolved to issue a circular to the homœopathic profession and the public interested in homœopathy, explaining the position of homœopathic chemists with regard to the *Pharmacy Act*, 1868, setting forth the objects of the Society, and soliciting contributions to its Funds to assist in providing a library and reading-room, and also facilities for study for its members and assistants occupied with business during the day.

The next meeting will be held at 7.30, on the evening of the 19th January. The subjects to be brought forward are announced in the advertising columns of *The Monthly Homœopathic Review.*

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## *What are Diseases?*

By Samuel Wilks, M.D., F.R.C.S., Physician to, and Lecturer on Medicine at Guy's Hospital.

Under the above name Dr. Handfield Jones has opened up the most vital question, I believe, in the whole domain of medicine, since it shows that the very first principles of treatment are not yet settled. The writer has argued the subject in his usual judicious manner, and thus the truths which he asserts must carry conviction to all readers; at the same time they are evidently the expression of facts seen on one side, and are intended for those who have not thought of disease from the author's point of view. I believe, however, that there is much to be said on the other side of the question; and I myself think that, at the present day, this is the more important, seeing that the tendency of the medical mind is in the direction which Dr. H. Jones has taken.

He shows in his paper, in opposition to antiquated views, that that which we style disease is nothing which the mind can grasp in the form of a distinct entity added to the human frame, but rather a deranged condition of the animal machinery, and, therefore, that our art must be directed to correct such derangement rather than to be used in attempting to fight some imaginary or unknown phantom, which we call "the disease." In fact, we must not treat something which we call disease, but we must treat the patient. It may not be that the author of this paper maintains this doctrine in all its exclusiveness, but the tendency of his remarks is certainly to support the idea; he may indeed strongly maintain it, and if so, I have no doubt the majority of the profession is with him. It is a doctrine long inculcated at my own medical school, and one which I myself at one time enforced upon students. Having had reason, however, now, for many years, to very much modify my opinions, I could not refrain from expressing these in a journal which has disseminated the remarks of so distinguished a physician as Dr. H. Jones. The principal object, however, I have in doing so is a practical one; since the treatment of our patients, according to the opinion we hold, must often be at complete variance, and thus one method must be essentially erroneous; of course, I should fear no harm in the discriminating hands of the writer, but, with less judicious practitioners, a false theory leads to an utter disregard of diagnosis, of the value of remedies, and to a treatment of disease based simply on popular and pre-conceived notions.

The question is really a most fundamental and vital one. Is there, or is there not, a sufficient resemblance in certain morbid states occurring in different individuals, and which we designate by a name to demand similarity of treatment? The question is to be answered by experience alone; but, for myself, I believe that some general principles and particular remedies may be found for the treatment of disease, not overlooking, of course, the individual peculiarities of the patient. I find that many in our profession, whilst acknowledging this difficulty in treating disease, never hesitate to treat the patient; and thus, altogether ignoring the special malady under which he suffers, adopt the most heroic measures for the improvement of his present condition.

Space and time will not allow me to illustrate this but by one or two examples, and I will more especially dwell upon the present very extensive use of alcoholic stimulants in all kinds of disease. This appears almost entirely to have come about from the putting into practice the doctrine which I repudiate, that it is the individual and not the disease which is to be treated. I rarely meet with a medical man who has made that study of disease which shall enable him to say that this or that remedy is useful, but he more generally complacently confesses his ignorance, and simply has abstained from giving such remedies as *Antimony* and *Digitalis*, because the patient was weak, and for the same reasons administered in their stead wine, *Ammonia*, or *Quinine*. If I am called to consult in a case of pneumonia, and generally find that brandy has been given, and I naturally inquire if this has been found a good remedy in the disease, I obtain for answer that the patient was too weak to be treated by rule, and his feeble condition necessitated the stimulant. If I see a case of acute rheumatism with pericarditis treated by the same universal remedy, I get the same answer, that the patient was so low that the stimulant was absolutely required. If it be scarlet fever, typhus, typhoid, bronchitis, or other malady, they are all treated on the same plan; in fact, *Ammonia*, *Ether*, and *Alcohol* might be regarded as universal medicines in acute disease, just as *Iron* and *Quinine* are in chronic. As for making out the disease, or treating it by methods which a close study of it in different individuals has shown to be good, this is considered interesting enough for a clinical lecture, but quite unnecessary for the good of the patient. He must be treated, and not the disease! an opinion, I believe, bad in theory and mischievous in practice. If *Iodide of Potassium* be given, the strength or weakness of the patient is not considered, but the question is whether experience has proved the drug to be useful in cases similar to the present; but when we come to certain other remedies, whose action on the healthy body is a little more apparent, as *Ammonia*, *Alcohol*, or *Quinine*, then we think we have sufficient evidence in the state of the patient to suggest or withhold their administration. Now I must state my own conviction, that we have at present no such means of recognising the need of their use, and that experience alone must guide us; in fact, I will use stronger terms, and simply deny that the supposed ordinary indications for the administration of stimulants are any real tests for their use. Taking the case of fevers, it has been thought that the muscular and nervous prostration of the patient, the weak heart, feeble quick pulse, brown furred tongue, were indications for the use of stimulants. This is simply incorrect, for such patients do well or better without them. I confess my own ignorance as to the proper tests for the administration of *Alcohol*, but I simply deny that the usual indications warrant its use; for if so, as all diseased people are weak they all want brandy; a not uncommon argument. I hope soon that by such tests as Dr. Anstie has given us, we may have some kind of gauge; but even then I submit that experience is the best guide. My own opinion is that we have just as much right to study the effects of *Alcohol* in particular diseases, as we have those of *Digitalis* or *Bromide of Potassium;* and as regards any knowledge we may obtain for their administration from the character of the pulse, we have not more guide for the one thing than the other. To suppose that, because a person has a disease and is therefore feeble, he is necessarily to be assisted by *Alcohol*, is simply a delusion; there are no facts to warrant it. For, on the contrary, we may see a patient lying in bed, having brandy poured down his throat, and with a pulse too quick to be counted, and then speedily observe its diminution in frequency and rise in strength upon the discontinuance of the stimulants, and in case of heart disease even a still further improvement from the administration of *Digitalis*. Whilst, therefore, patients with all the supposed indications for stimulants will very frequently do equally well without them, we are not in possession of those rougher modes of knowledge which will guide us to their use, and therefore we had better endeavour to learn whether they are "good for the disease" rather than for the individual.

I have taken the case of *Alcohol* because it is the most striking and by far the most important illustration which I can bring forward in connexion with this very vital question, and it is because so many have already settled the matter in their own minds that I speak strongly upon it. But the argument applies to other remedies; and with regard to them we may ask, do we know sufficient of their action to enable us to determine in any particular case whether they will be of use or not, or are we not guided by a knowledge of their operation in cases which are similar? I think at present, a general experience of their efficacy can alone guide us.

This opinion, however, is by no means always adopted. Thus I find a patient with acute albuminuria taking *Iron* and brandy because he is so anæmic and weak; I venture an opinion that it would be better to treat the disease rather than the patient, and recommend a saline with *Antimony* and a purge; in a few days he is better and therefore stronger. These remedies had previously been withheld in the fear that the patient could not bear them. I also constantly witness the good effects of *Digitalis* in patients who had not hitherto had this drug because they were too weak; and I have more than once observed the highly beneficial effects of blood-letting in bronchitis; in persons in whom the pulse was scarcely to be felt, and therefore of course venesection to be shunned. If I see a wet rag on a patient's head and inquire into its use, I am told it is placed there because the head is hot, which is no reason at all. Indeed I am sorry to remark that the character of the malady, the course it pursues, and all experience as to the effect of remedies in particular complaints, are constantly put on one side in order to treat the patient.

As the whole question does not turn on the administration of so-called strengthening or lowering remedies, but has a far wider range in reference to the correct methods of treating disease, I may take one or two other instances, and remind the reader of the frequent harm of arresting a diarrhœa in Bright's disease, or attempting to stop a hæmoptysis in morbus cordis, or of giving brandy and *Opium* in cholera. The following is an instance of what I consider correct treatment. A young woman is brought to the hospital too ill to give any account of herself, but her condition clearly reveals a case of typhoid fever. On the fourth day there is no relief from the bowels, and the clinical clerk suggests an aperient dose. I reply that I am treating a case of typhoid fever in which the bowels are diseased, and no doubt contain a quantity of fluid secretion, and therefore object to the proposal. A few hours after the sphincter ani becomes relaxed, and the bed is flooded by a fæcal evacuation. I am thankful that I treated the disease and not the patient. Again, a person is seized with pain in the right iliac region, followed by symptoms indicating a local inflammation about the cæcum. A medical man is called in who never thinks of the probable nature of the disease, but turns vigorously to treat the patient. To overcome the sickness, he orders effervescing medicine, and brandy with soda water; for the constipation, aperient medicines and turpentine injections, and, to get rid of the flatulence, a good stimulating embrocation to the abdomen; a method than which no better could be devised to prevent the natural repair which would have taken place, and to set up general and fatal peritonitis. If the medical man would cease to treat symptoms in sudden or acute abdominal affections, more lives than I dare to think of might be saved. In peritonitis, arising as it does from so many causes, and judicious practitioners not existing in too great a number, I verily believe, though reluctant to declare it, that the patient's friends had far better never send for a doctor. If I were seized with a sudden peritonitis, and could only utter a few words, they would be "for God's sake leave me alone."

I do not in this communication wish to undervalue the study of individual peculiarities which modify morbid processes, and therefore agree very much with what Dr. Handfield Jones has advanced; but I fear the strength of his name may help to encourage a very loose system of therapeutics which is now in vogue. In fact, the scepticism which exists as to the value of remedies prevails very largely, and I am constrained to think that those practitioners are in the minority who have made a real study of therapeutic agents; for my own part, I think it equally necessary to ascertain the exact value of such powerful drugs as *Ammonia* and *Alcohol*, as of *Digitalis*, *Conium*, and *Bromide of Potassium*. It is true, that new compónents are daily invented, but these only serve to strengthen my opinion as to the prevailing want of purpose in the treatment of disease; for surely very little therapeutic knowledge is evinced when the patient with acute disease is kept up with *Ammonia* and brandy, and he who has chronic disease is made to swallow, under the euphonius name of chemical food, some new-fangled compound, consisting of cod-liver oil, *Quinine*, *Iron*, *Strychnia*, phosphates of all kinds rolled into one. In fact, a large part of the treatment of the present day may be summarised as "keeping up the patient;" equally satisfactory to himself and his friends. This I believe has all arisen from the withdrawal of the student's mind from the true nature of pathological processes, and the absence of a careful observation of the effects of therapeutic agents, and directing him rather to take cognisance of the patient's present condition, in order to judge simply the amount of support which he requires.

To put the matter once more in a practical shape. In the very next case of fever and pneumonia which the reader may see, he will ask himself the question, whether his patient requires stimulant or not, and he will feel the pulse accordingly. Now I do not maintain that these are not well-marked signs of collapse which demand a stimulus, in fact I am sure I have saved patients' lives by their timely administration, but with such exception I hold that the doctor has something else to do than examine into the present state of his patient; he has to put together all the cases of the kind which he has seen, and then make use of his experience in the treatment of the case then demanding his attention. What do I do myself? I find that my fever patient presents all the indications for stimulants, which are usually considered to be such; and at one time I was in the habit of administering *Ammonia*, brandy, and wine accordingly. I have abstained from giving them, and had more recoveries, therefore the weakness of the patient is no test for their use. I have had cases of pneumonia, in which I could say nothing against the propriety of giving stimulants, by considering alone the want of power of the patient; nevertheless, I have been more than satisfied by a persevering effort to withhold them; on the other hand, I have had no reason to regret an universal order for brandy and wine in all cases of erysipelas.—*Med. Times and Gazette.*

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## *On the Therapeutical values of Peroxide of Hydrogen and Ozonic Ether.*

By Benjamin W. Richardson, M.D., F.R.S.

In the year 1856 I commenced for the first time the study of the therapeutical action of the substance known by chemists as the peroxide of hydrogen. At the time I refer to this study had not been entered upon systematically by any one, and in our books of physic the peroxide had barely been noticed as a remedy. The industrious Pereira did not lose sight of the substance, but in his references to it he simply confines his remarks to a brief description of its chemical and physical characters, and to a note of the fact that the Society of Sciences of Haarlem had offered a prize for an essay treating on the medicinal qualities of what promised to be a most useful addition to the list of remedies. A few years since a kind and enthusiastic medical friend of mine, being at Haarlem, inquired about this prize, and claimed it for me; but he was told that the prize having been advertised for many years and the claimants having been none, it was withdrawn about the year 1850.

My own first researches cost some considerable labour, and, owing to the circumstance that the peroxide was not, at the time when they commenced, manufactured in England or elsewhere, considerable time and expense also. They were also published in too fragmentary a manner to claim definite attention. They were, however, like seeds loosely sown and coming up as live grain, not actually lost; and now, as if the first sowing had yielded a second and better return, they are attracting a revived and much more general interest. At the request of many friends who attend these lectures, I therefore to-day approach the subject again, hoping this time to put into a lecture a *résumé* of what is known respecting peroxide of hydrogen and ozonic ether—their history, preparation, physical properties, physiological action, and therapeutical values.

## *The History of Peroxide of Hydrogen.*

Peroxide of hydrogen was discovered in 1818 by the distinguished Baron Thénard, who gave to it the name of *Deutoxide of hydrogen.* The most elaborate description of it is supplied by Thénard himself in his *Traité de Chimie.* The narrative is so simply given and so perfectly illustrated that every statement subjects itself at once to scrutiny, and every statement, I believe, may be proved by any one who will undertake the labour to the point of demonstration.

One element in the history is wanting to make it complete, and that is a detailed account of the mode of thought and reasoning by which the great chemist discovered the peroxide. As Thénard is long dead, we shall probably never have the steps of this interesting and curious discovery made known to us. Since the time of the discovery of the peroxide, its nature and properties have been investigated by various chemists. I may name amongst the most prominent Pelouze, Mitscherlich, Vogel, and Berzelius; but it cannot be said that these have added much to Thénard.

Of late days the speculations of Schönbein relative to ozone, have caused the peroxide to be discussed more than formerly, in the way of speculative chemical philosophy.

### *The Preparation of the Peroxide of Hydrogen.*

The chemical proposition for the formation of the peroxide of hydrogen was given by Thénard, and it stands unaltered. Gmelin thus condenses it:—

When peroxide of potassium, sodium, barium, strontium, or calcium is digested in any hydrated acid which forms a soluble salt with the salifiable base resulting from the decomposition of the peroxide, the excess of hydrogen does not escape as gas, but passes over to a portion of the water, and converts it into *Peroxide of hydrogen.*

To carry out the manufacture, it is therefore necessary to obtain one of the above-named peroxides in the pure state. It has been up to this time most practicable to select out of the list the peroxide of barium, a specimen of which I hand round. This peroxide is made either by placing pure anhydrous baryta—obtained from the decomposition of the nitrate by heat—in a glass or porcelain tube, heating to redness, and passing through the tube a current of dry oxygen; or by heating together in a platinum crucible anhydrous baryta and chlorate of potassa. The first of these processes is the readiest and, I think, best. The baryta used must be freed, as far as possible, from foreign matter, particularly from manganese, and the oxygen gas must be entirely freed of admixture with carbonic acid. If either of these substances be present in making the peroxide, the result will be altogether a failure, inasmuch as both these substances have the property of evolving the oxygen with which the hydrogen is to be afterwards charged as fast as the oxygen itself is produced. The proofs that peroxide of barium is pure are these:—It should present a greyish-white surface, free from green specks. Powdered and slaked with water, it should form a paste without evolution of heat. It should be entirely soluble in diluted hydrochloric acid.

In making the peroxide of hydrogen, the further processes are carried out as follows:—We take, say, twenty fluid ounces of distilled water, and two fluid drachms and twenty minims of pure hydrochloric acid. We make the acid mix thoroughly with the water. Then we take two drachms and ten grains of the peroxide of barium, reduce it to powder, place it in a porcelain or glass basin, and pour on it a little water, until it is made into a soft paste. With a glass or box-wood knife (an iron spatula must not be used), we gently add the paste to the acid solution, stirring until all is dissolved; if a precipitate occurs, a minim or two of the hydrochloric acid must be added to take up such precipitate. In this step of the process we transform the baryta into the soluble chloride of barium, and at the same time charge the water with one volume of peroxide of hydrogen. The salt of barium, which is soluble, and is in the solution, must next be removed. This is done by adding very cautiously one drachm and a half of dilute sulphuric acid. (The acid must be diluted to one part in three of water.) The sulphuric acid must be added slowly, so that heat be not evolved. The baryta will in this way be all precipitated in the form of insoluble sulphate. The solution at this stage must be set aside for a while to allow the whole of the sulphate of baryta to subside. The clear solution must be poured off as a succeeding step, and filtered through Swedish filter-paper. We have now a solution containing its own volume of peroxide of hydrogen, as before, and again the portion of freed hydrochloric acid in lieu of chloride of barium. To this solution we re-add peroxide of barium, afterwards sulphuric acid, and so on by repetition until the water is charged with oxygen to the amount required by the operator. By care and in time water may thus be charged with thirty volumes of oxygen.

If it be required to obtain the peroxide of hydrogen in a free state by the removal of the hydrochloric acid, we pursue the steps of the process thus:—

To the solution charged with the peroxide of hydrogen and the hydrochloric acid we add carefully sulphate of silver. Chloride of silver is thrown down, and the sulphate is added until precipitation ceases. The chloride of silver is then separated by filtration. The solution obtained consists of peroxide of hydrogen, water, and free sulphuric acid. The last step is to add baryta to the solution until all the sulphuric acid is fixed as a sulphate of baryta; this is removed by deposition and filtration, and pure peroxide of hydrogen remains in the water.

If it be the wish of the chemist to obtain the peroxide of hydrogen in a concentrate form, he charges a smaller portion of water by the steps I have given above, with thirty volumes of oxygen. Then he places the solution he has made under the receiver of an air-pump with sulphuric acid around to absorb water. In this condition water uncharged with free oxygen first passes off, and at last a fluid is left which may be considered as absolute peroxide of hydrogen. It yields 475 volumes of oxygen, and evaporates under the air-pump altogether.

Simple methods of making peroxide of hydrogen have been proposed. Pelouze suggested the manufacture by adding the peroxide of barium to a solution of hydrated hydrofluoric acid. Fluoride of barium is thus thrown down, and peroxide of hydrogen is produced in solution. Taking it all in all, I consider Thénard's original process to be the best.

## *Physical and Chemical Properties of the Peroxide of Hydrogen.*

Peroxide of hydrogen existing in solution in water does not impart any colour to the solution, but a distinct odour which resembles that of a weak solution of chlorine. When a little of it is placed in the hands, this odour becomes more distinct. When it is tasted, it imparts to the tongue, even in weak solutions, a caustic taste, and when very strong, this causticity is painful. In the concentrate form it whitens the mucous membrane when applied to it, and produces a tingling sensation. In its highest concentration it has a specific gravity of 1·452. It mixes with water in all proportions, and may be kept in solution at all ordinary temperatures. Reduced in temperature to — 30°, it does not freeze. Light, as far as is yet known, does not influence the peroxide of hydrogen, but heat evolves it. When water containing peroxide is carefully boiled, the extra measure of oxygen does not go off until the boiling point is reached; then the gas, once beginning to be liberated, continues to pass off with effervescence for a long time—until it is gone, in fact, and even for a period after the water has become cold again. This circumstance gives rise to a simple experiment.

The electric current passed through a solution of the peroxide of hydrogen produces decomposition. The hydrogen and oxygen appear at their respective poles, but the oxygen is in larger quantity in proportion to the amount in excess in the solution. I can show this decomposition now very completely by means of a powerful little electro-magnetic machine made by Mr. Browning. You will see with the first few turns of the handle the separation of the gases, slight at the commencement, but in time becoming very rapid.

Brought into contact with inorganic bodies, the effects of the peroxide are singularly various. *A priori*, it might be expected that it would oxidise all oxidisable substances; the facts, however, are not so, absolutely. Some inorganic bodies absorb oxygen from the peroxide, and become oxidised. I name two of these—arsenious acid and sulphurous acid; the first of these, in presence of solution of peroxide, is converted into arsenic acid, the second into sulphuric acid. Here is a specimen of sulphuric acid produced in this way from sulphurous acid. Advantage might be taken of this change, in the case of arsenic acid, for the chemical detection of arsenic in organic substances. Other inorganic substances, on coming into contact with the solution, evolve the oxygen, and in some cases of oxides, a portion of their own oxygen is given up also. Carbonic acid, oxide of manganese, silver, mercury, charcoal, all liberate the oxygen.

For the purpose of experiment I take here a solution of the peroxide, and add to it a little binoxide of manganese in a small flask, without heat. Gas is at once evolved, and collected in the reservoir. You will see by the brilliant burning of the taper in the reservoir that the gas is oxygen. The protoxides of gold, silver, and mercury, in the presence of the peroxide of hydrogen, expel the oxygen with great violence, and become reduced by giving up their own oxygen.

A very pretty experiment, showing the reduction of a substance rich in oxygen by the addition of peroxide of hydrogen, is performed as follows:—We take a solution of permanganate of potassa, and add to it a little of the peroxide solution. At once observe there is evolution of gas, while the deep rich colour of the solution evanishes. As the liquid becomes colourless, see a black substance falls to the bottom; this is the reduced manganese. The permanganate is decomposed, the peroxide is decomposed; by the mutual contact both give up oxygen. The permanganate is left as oxide of manganese, the peroxide as water. The strength of a solution of peroxide of hydrogen may be determined by this experiment in a ready way.

A very easy and elegant, though rather expensive, mode of making oxygen is to put some solid permanganate of potassa, as I now do, into a flask, and then to pour over the substance some peroxide of solution. The evolution is very rapid; we collect twenty or thirty cubic inches quickly, and find the oxygen very pure for inhalation.

## *Therapeutical uses of Peroxide of Hydrogen.*

My first object in introducing peroxide of hydrogen into medicine was to test it as a remedy for diabetes. The theory that diabetes was a disease attended with a deficient oxidation was at one time extremely popular. I thought it, therefore, fair to ascertain whether a remedy rich in oxygen would be of service in marked cases of this disease. I soon afterwards began to test the medicine in other forms of disease, not on any particular theory of its action in every case, but, if I may so say, empirically, in cases where severe and long-continued symptoms were not amenable to ordinary plans of treatment; thus in time—extending now over ten years—I have got together a large collection of facts respecting the effects of the substance in different disorders, which I will epitomise under distinct heads.

### *Diabetes.*

I have tried the remedy now fairly in eleven cases, and in three so rigorously that nothing, I think, remained undone to make the experience crucial.

In the first of these three cases the administration of the remedy was attended with such remarkable signs of improvement that the patient (a woman) came to the conclusion that she was cured. During the first eight days, the renal secretion was reduced from five to two pints, and on the eighth day the specific gravity, which had been 1045, had come down to 1023. The medicine was now suspended for four days, with immediate increase of the amount of secretion to five pints. The medicine again resumed, there was immediately a cessation of the diuresis. This continued until the eleventh day, on which day only two pints of urine were passed in twenty-four hours. At this point symptoms of hemiplegia, which had twice before appeared, recurred, attended, as they had also been previously, with epileptiform convulsions, in the course of one of which attacks she suddenly expired. The results of this case left me in doubt as to the influence which the medicine might have had in arresting the saccharine secretions; for it has been observed by Dr. Garrod and other physicians that the elimination of sugar during diabetes is often temporarily arrested by the occurence of new changes of disease in the system.

I held the matter, therefore, open as subject to further inquiry. The quantity of solution taken by this patient averaged three fluid drachms a day; the strength of the solution was ten volumes.

The second case was that of a child 8 years of age. She had been suffering from diabetes for eight months at the time when she was presented to me. At this period the specific gravity of the urine was 1058, and the quantity passed fifty ounces per day. On October 22 she commenced to take the peroxide in drachm doses three times daily, which were to be increased to doses of three drachms; the quantity of urine passed was accurately measured, and the specific gravity taken twice daily. At the end of seven days the specific gravity stood at 1043, and the quantity passed was sixty ounces per day. The treatment was now continued for twenty-three days, the dose of peroxide being increased to half an ounce, when observations were taken for four days with the following results. On the first day the quantity of urine was seventy-seven ounces, specific gravity 1046; on the second sixty ounces, specific gravity 1041; on the third seventy-three ounces, specific gravity 1046; and on the fourth seventy-three ounces, specific gravity 1040.

For a period of four days the peroxide was withdrawn, during which time seventy-six ounces were passed daily, with a fluctuating specific gravity; the medicine was then resumed, five minims of the tincture of muriate of iron being added to each dose, and this was continued for seven days. During this period the quantity of urine varied from seventy-five to ninety-one ounces; and from this point until the time of her death, two months later, the results were in main the same, the peroxide having been for several weeks withdrawn, and various other kinds of treatment, such as opium, gallic acid, and cod-liver oil having been instituted in the place of it. Throughout, the greatest attention was paid to the dietary. The ultimate and fatal ending of the case was somewhat sudden, and probably arose from cerebral complication. If any inference is derivable from this case, it is to the effect that, during the time the peroxide was being administered, there was a decrease in the specific gravity, with increase in quantity. I have known the same to occur under other forms of treatment.

The third case of diabetes occurred in a man, by trade a plasterer. It was obviously connected with cerebral disturbance, as the patient suffered from frequent attacks of vertigo. The quantity of urine passed often exceeded eighty ounces per day, and the specific gravity averaged 1040. He took peroxide of hydrogen for five weeks, in doses of three drachms, three times daily. The symptoms for the first few days were materially relieved; after a time they returned to their original intensity, and at the end of the fifth week the man was in the same condition as at the beginning. This man being an infirmary patient left the institution with which I was connected, and I have been unable to follow out the history of his case further.

In two cases of diabetes with phthisis which came to me very late in the progress of the disorders, and were, in truth, fatally disabled by the pulmonary disorganisation, I treated one for three, the other for four weeks, with the solution in doses of three drachms three times daily. In both it seemed that the medicine increased the quantity of urine, while it decreased the quantity of sugar. They both ended fatally, the phthisical symptoms being the cause of death. From these experiences, and six others similar, I am obliged with regret candidly to state that at this moment there is no proof that peroxide of hydrogen is of specific value in the treatment of diabetes.

## *Rheumatism.*

I treated a case of chronic rheumatism of a troublesome kind, in which both quinine and sudorifics seemed only to increase the pain and anxiety. The affection was located principally in the shoulders and the hips, but it showed its usual migratory character. The patient was a female, seventy years of age, and the dose of the peroxide given was two drachms three times daily. The symptoms were certainly quickly and effectually removed, and, as far as one could judge, such removal was effected by the medicine.

I treated a case of subacute rheumatism of that kind, in which, after an acute attack, relapsing symptoms, modified in character, occurred, attended with pain in the joints, quickened cardiac pulsation, pulmonary congestion, and profuse perspiration. The effect produced, or rather what followed, was satisfactory. During the course of the acute symptoms the patient had been freely treated with alkalies, but for these relapsing congestive attacks the alkaline method unquestionably depressed, and a congested condition of lung which bordered on pneumonia, and produced intense embarrassment in respiration, remained. The peroxide was given in full doses, and from the first the man expressed himself as relieved in his breathing; the profuse action of the skin was controlled, the inflammatory swelling subsided, and the case went on to speedy and sound recovery.

### *Cardiac Disease.*

Four cases of valvular disease of the heart were treated with the oxygen solution at that stage of the malady when pulmonary congestion was the symptom immediately present and oppressive. The object of the administration was to assist the circulation by expediting the oxidation of the blood. I am bound to say in reference to these administrations that they seemed to give more relief than anything I have ever before described; the breathing became tranquillised, the countenance clearer, and the oppression lighter. In every case the patients themselves expressed a decided sensation of great relief, and one patient for many months had the solution always at hand, of which he would take a full dose when the indications of difficult breathing were coming on, and always, he assured me, with infinite benefit.

In three cases of cardiac disease in which the muscular structure was diseased, in which there was constant irregularity in the action of the heart, and at intervals paroxysms of severe cardiac apnœa, I put the peroxide to fair test.

These cases were all under steady treatment for many weeks, and one for three months, but I cannot say that they showed any marked improvement, or that the acute paroxysms were at all deferred as a consequence of the treatment.

### *Struma.*

Two cases of struma were treated. They were well-marked instances of the disorder: one in a child, the other in an adult. In both there was great enlargement of the cervical glands without suppuration. In one case iodine had been applied externally for many months without any improvement. I did not withdraw the iodine, but ordered the peroxide solution in addition. The case rapidly recovered; but as iodine was a conjoint remedy, it would be unfair to give the credit to the oxygen.

The second case had the advantage of being free from the above objection. In it no previous treatment had been pursued, and the peroxide was alone administered. To my surprise, the glandular swellings gradually disappeared, precisely as under the influence of iodine itself.

I had another case of struma with purulent deposit. A boy, intensely anæmic, was brought to me in the summer of 1863 with suppurating glands in the neck, and purulent discharge from chronic abscesses in six other parts of the body. He was placed on the peroxide solution, with five minim doses of tincture of the muriate of iron. He bore the solution well, and continued it for many months. He so far recovered that his friends thought it unnecessary to continue their visits, and during the autumn he enjoyed very good health. In the beginning of the following year the symptoms returned, despite the most careful attention to diet and regimen, and he was brought to me again with three enormous abscesses, one of which I was compelled to lay open. He took the peroxide this time without iron, and made a slow but good recovery.—*Med. Times and Gazette.*

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## OBITUARY.

### Dr. Fleischmann, of Vienna.

Wherever homœopathy has penetrated, the name of Dr. Fleischmann is a household word. His connexion with the Hospital of the Sisters of Mercy at Vienna at the time of the outbreak of cholera in that city in 1836 gave him the opportunity of showing the success of the homœopathic treatment of that disease, which proved to be so much greater than that of the ordinary method, that from that date homœopathy obtained a firm footing in the Austrian states. Dr. Fleischmann maintained his connexion with the Gumpendorf Hospital to the last, and he had the satisfaction of seeing two more hospitals in Vienna placed under the care of homœopathic physicians, the governors of these hospitals being led to do this in consequence of the success attending Fleischmann's treatment. Many British practitioners, both homœopathic and allopathic, have followed with diligence the treatment of the distinguished physician, and attended his daily rounds in the neat and quiet hospital over which he presided. These gentlemen were all received by him with a kind of gruff courtesy. Though laconic of speech he was always perfectly polite and would submit to be questioned on points of his practice by his inquisitive and often hostile visitors with perfect equanimity. With the death of Trinks and Fleischmann homœopathy seems to have lost all the old pioneers of homœopathy and contemporaries of Hahnemann in Germany. A few of the older apostles of the faith still remain in other parts of the world, as Jahr in Paris, Hering in Philadelphia, and perhaps one or two more.

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## BOOKS RECEIVED.

*Homœopathy explained and vindicated, &c.*, by DUNCAN MATHESON, M.D., of Newcastle-on-Tyne. [Our method has met with the usual opposition at Newcastle, but the defence is even more than usually vigorous and to the point in this pamphlet. There is a new feature in the attack as a Dr. J. C. Gibb, one of the opponents, professes to have studied homœopathy in the Homœopathic Hospital in Vienna "and seen its powerlessness against disease." This disingenuous statement and the false inference implied are satisfactorily exposed and refuted.—EDS.]

*Biennial Report of the Northampton Homœopathic Dispensary*, by Mr. Clifton. [Contains besides some interesting cases an excellent *résumé* of the progress of homœopathy.—EDS.]

*Cholera in the Orient*, by Dr. CRICCA, Smyrna, translated by JOHN DAVIES, M.D. Chicago, 1868.

*Classification of a few of the "New Remedies,"* by TEMPLE S. HOYNE, M.D. St. Louis, 1868.

*Transactions of the Twentieth Session of the American Institute of Homœopathy.* Boston, 1868.

*The Monthly Homœopathic Review.*
*The Hahnemannian Monthly.*
*The American Homœopathic Observer.*
*The Chicago Medical Investigator.*
*The North American Journal of Homœopathy.*
*Neue Zeitschrift für Hom. Klinik.*
*L'Art Médical.*
*Bulletin de la Société Homœopathique de France.*
*El Criterio Medico.*
*La Reforma Medica.*
*The Calcutta Journal of Medicine.*

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## To Correspondents.

N. of Bombay.—Thanks for your communication; but we must decline to publish any cases of the cure of disease, however marvellous, unless the name of the remedy and its mode of administration be given.—[EDS.]

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OF

HOMŒOPATHY.

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# RHEUMATISM.

By Dr. VAUGHAN-HUGHES, one of the Medical Staff of the London Homœopathic Hospital.

THE *British Medical Journal,* in reviewing the "Reports of Medical and Surgical Practice in the Hospitals of Great Britain," criticises the present treatment of acute rheumatism, and remarks—"The treatment of acute rheumatism is a subject which has received, perhaps, of late years, greater attention from the profession than any other disease. The numerous remedies which have been enthusiastically brought forward as specifics have received a fair and very extensive trial, and, as a result, have all sunk to a level far below the expectations of their advocates. They received a severe blow after the experience of Dr. Gull, Dr. A. P. Stewart, and others, had been made known, in treating the disease by the expectant method. It was then shown that acute rheumatism tended to recovery without medicinal treatment of any kind, and that not a few cases recovered under circumstances almost as unfavorable as those treated by the received alkaline remedies."

"After reading the notes from men of large experience and of acknowledged authority, in which the marked difference of opinion as to the remedy or remedies, and even the doses of these employed is so apparent, one cannot but feel *how uncertain our therapeutical knowledge* is on the subject, and ask the question, what should be the treatment of acute rheumatism? Of the various remedies which are in use at present, the alkaline seems to have gained the greatest share of confidence at the hands of the profession; still the different success which has attended the practice of one physician with another is a matter which requires solution. It is palpable that much has still to be learnt before we can speak dogmatically, as men have been apt hitherto to do, on the treatment of this painful and mischievous malady."

This Journal also, in commenting upon the practice pursued at Guy's Hospital, states that Dr. Wilks, "who considers rheumatic fever one of the most difficult diseases for study, is of opinion that the profession has not arrived at the discovery of that treatment which will bring the patient through without implication of the heart; since thousands die annually whose cardiac disease has its origin in rheumatism." In treating a *private patient* who has sufficient faith in orthodox remedies, Dr. Wilks orders salines, opiates at night, blisters to the joints to relieve pain, and flannel to the skin; but judging from what Dr. Wilks has lately published in the *Practitioner* on the powers of *Aconite* to relieve acute rheumatism, one would say that *he* personally has more confidence in that single remedy than in the aforesaid orthodox treatment, though he takes a vindictive pleasure in warning his medical class that they must not regard him as a convert to homœopathy, or that he prescribes *Aconite* on the same principle that the new school do, which would be tantamount to quackery.

At a meeting of the Medical and Chirurgical Society of London the subject of the "Natural History of Rheumatic Fever" was discussed. Dr. Gull, of Guy's, and Dr. Sutton, of the London Hospital, related twenty-five cases treated with mint-water, and allowed to run their course naturally. There were eighteen men and seven women; the average age was nineteen years. First attack; the disease was well marked; the temperature averaged 102° Fahr.; and the duration of acute stage in the hospital was on an average ten days; while the average duration of acute stage before admission was seventeen days. They put the following question:—Is the duration of this disease longer or shorter by the expectant plan when compared with the treatment by drugs? and they gave their own experience as follows:—They consider no one plan has any great advantage as regards shortening the disease. Drs. Gull, Sutton, and Barclay agree in opinion that alkalies have no particular influence in curtailing the duration of the disease. And this opinion they likewise hold with respect to the action of lemon-juice and the blister treatment of Dr. Herbert Davies, though they find that blistering does ease the pain sometimes. In conclusion, they say, "Our cases appear to teach us that the rheumatic process runs its course under the expectant treatment as favorably as under the influence of drugs." They then inquire—Does the drug treatment prevent the heart from becoming diseased? Of the twenty-five cases, twelve had organic disease on admission; no organic disease supervened during the treatment, and the heart was healthy in eleven, and when they left that organ continued so. They found that, "when the patient was admitted free from heart disease, this complication rarely occurs during the natural course of the disease, and its treatment by the do-nothing system in hospital." They then quote Drs. Garrod, Dickinson, Herbert Davies, Owen Rees, and Basham, who affirm that organic disease of the heart very rarely occurred when rheumatic fever was treated in the hospital by full doses of *Alkalies*, blisters, lemon-juice, or *Nitrate of potash*, and they arrive at the following conclusion:—"That there is not sufficient evidence to prove that any of the advocated systems of treatment have power to prevent the heart from becoming diseased." Their cases would teach them that the good results attributed to the influence of remedies were equally observable when no special remedies were used, and they, therefore, decided "that these good results were due not to the drugs, but to the natural course of the disease." Their experience from twenty-two cases also led them to the opinion "That the tendency of the heart to become diseased shows itself during the first week, and if it escapes then it rarely becomes affected afterwards, and that while the disease was running its natural course in the hospital under mint-water the heart generally escaped disease." This fact is also observed when the patients are under the alkaline, blister, and lemon-juice treatment; but Drs. Gull and Sutton refer the fact not to the influence of the drugs, but to the natural course of the disease, and they sum up by saying, "That as regards *the treatment of rheumatic fever by remedies, they candidly confess that these are valueless*, and that they are limited to a careful regimen of the patient, rest, mechanical and physiological, in the outset of the disease; to regulate the temperature; to moderate the excessive skin action by sponging; allay pain by an easy position and sometimes by opiates; to sustain the powers by light food and occasionally small doses of *Alcohol*; to rest as fully and as perfectly as possible the nervous, circulatory, muscular, and digestive organs. To do this well, they say, will often tax all our energies, and will often require more consideration than is requisite for prescribing any supposed appropriate drug treatment."

The *Lancet* in criticising this extraordinary allopathic discussion on acute rheumatism makes these sad remarks—"That such a debate should have been held in serious earnest, and that in this nineteenth century grave physicians should have spent their time in considering whether, in the face of a painful and dangerous disease, it is on the whole better to treat it, or leave it alone, is of itself a satire upon the healing art—a satire than which Swift could have imagined nothing more severe." The *Lancet* has been recently publishing, in the form of tablets, cases of acute rheumatism treated in St. George's Hospital, where the alkaline system of treatment is carried out to its fullest extent, viz., ʒiij to ʒxij given daily, and the urine kept constantly alkaline. In several of the cases, venesection, *Calomel, Opium, Colchicum,* &c., are prescribed as well.

The tablets of one of the medical registrars gives the following summary:

| | | | |
|---|---|---|---|
| Number of cases, 80. | *Treatment.*— Salines ʒiij to ʒxij daily—*Calomel* and *Opium, Colchicum*, Venesection, *Guaiacum, Quinine, Belladonna.* | Heart *not* affected when admitted, but becoming so in the hospital, in 23 cases. | Average number of days in the hospital, 35. |

Another medical registrar at St. George's gives a total of 100 cases which may be given in a tablet as follows:

| | | | | | |
|---|---|---|---|---|---|
| Number of cases, 100. | Heart affected on admission in 48. | Heart affected while in hospital in 21. | Heart free throughout in 31. | *Treatment.*— Saline throughout, and the urine kept alkaline. | Average number of days in hospital, with heart affected, 46; heart free, 24. |

Having drawn up these tablets of cases of acute rheumatism in an allopathic hospital where *par excellence* this disease has attracted such extraordinary attention and study, it will be interesting and instructive to introduce here in a tabular form thirty-one cases of this disease treated in the London Homœopathic Hospital. They are recent, unselected, and attended by different members of the internal staff.

### *Cases of Acute Rheumatism treated in the London Homœopathic Hospital.*

| Names. | Age. | Character of attack. | Treatment. | State of heart throughout. | No. of days in hospital. |
|---|---|---|---|---|---|
| J. C. | 18 | Severe. | *Acon.* 1, *Bry.* $1^x$, *Spig.* $1^x$, *Dig.* $1^x$. | Affected. | 29 |
| J. O. | 24 | Ditto. | *Gelseminum* $\phi$, *Bry.* $1^x$, *Sulph.* 1, *Ignat.* $1^x$. | Heart diseased. | 38 |
| R. W. | 52 | Ordinary. | *Bry.* $1^x$, sea-salt hot-bath. | Not affected. | 24 |
| W. F. | 20 | Ditto. | *Acon.* $\phi$, *Gels.* $\phi$, claret and seltzer. | Ditto. | 17 |
| H. G. | 47 | Severe. | *Gels.* $\phi$, *Bell.* $1^x$, *Bry.* $1^x$, claret. | Affected. | 31 |
| J. G. M. | 14 | Ditto. | *Acon.* $1^x$, *Bry.* $1^x$. | Ditto. | 14 |
| M. A. | 33 | Ordinary. | *Bry.* $3^x$, *Acon.* $1^x$. | Not affected. | 7 |
| J. H. | 13 | Ditto. | *Acon.* $3^x$. | Ditto. | 24 |
| C. C. | 27 | Severe. | *Acon.* $1^x$, *Bry.* $1^x$, *China* $3^x$, *Hep. s.* 5. | Ditto. | 18 |

| Names. | Age. | Character of attack. | Treatment. | State of heart throughout. | No. of days in hospital. |
|---|---|---|---|---|---|
| C. B. | 21 | Severe. | *Acon.* $1^x$, *Bry.* $1^x$, *Bell.* $1^x$, claret and seltzer. | Affected. | 23 |
| A. C. | 20 | Ditto. | *Acon.* $1^x$, *Bry.* $1^x$. | Ditto. | 18 |
| M. A. R. | 25 | Ditto. | *Bry.* $1^x$, *Rhus* $3^x$, *Sulph.* 6, *China* $3^x$, *Nux* 6, *Hep.* 5. | Ditto. | 29 |
| W. H. | 41 | Ditto. | *Bry.* $1^x$, *Bell.* $1^x$, *Merc. sol.* $2^x$, *Nux* $1^x$, *Ars.* $2^x$. | Ditto. | 30 |
| H. L. | 18 | Ordinary. | *Acon.* $1^x$, *Bry.* $3^x$. | Not affected. | 10 |
| A. N. | 17 | Severe. | *Acon.* $1^x$, *Bry.* $1^x$, *Bell,* $1^x$, claret and seltzer. | Affected. | 14 |
| E. M. | 19 | Ditto. | *Bry.* $1^x$, *Bell.* $1^x$. | Ditto. | 14 |
| G. P. | 20 | Ditto. | *Acon.* $1^x$, *Bry.* $1^x$, *Bell.* $1^x$, claret and seltzer. | Ditto. | 16 |
| B. J. | 26 | Ordinary. | *Bry.* $1^x$, *Bell.* $3^x$, *Bry.* $1^x$. | Not affected. | 21 |
| W. M. | 12 | Ditto. | *Bry.* $1^x$. *Bell.* 1, *Nux v.* $1^x$, claret. | Ditto. | 11 |
| E. M. | 17 | Ditto. | *Acon.* $1^x$, *Bry.* $1^x$. | Ditto. | 9 |
| M. A. T. | 16 | Ditto. | *Bry.* $3^x$. | Ditto. | 6 |
| E. Y. | 47 | Severe (second attack.) | *Puls.* 6, *Rhus* $3^x$, *Sulph.* 5, *Ruta* $3^x$. | Ditto. | 32 |
| F. F. | 14 | Ordinary. | *Bry.* $3^x$, *Sulph.* $1^x$, *Oleum jecoris.* | Ditto. | 21 |
| H. G. | 43 | Severe. | *Bry.* $3^x$, *Bell.* 1, *Acon.* $2^x$, *Nux* $2^x$, *China* $2^x$. | Ditto. | 29 |
| H. N. | 12 | Ditto. | *Bry.* $1^x$, *Nux* $1^x$. | Ditto. | 13 |
| H. P. | 10 | Ordinary. | *Puls.* $1^x$. | Ditto. | 9 |
| A. B. | 57 | Severe. | *Bry.* $3^x$, *Rhus* $3^x$, *Nux* $3^x$. | Ditto. | 39 |
| M. A. C. | 25 | Ditto. | *Acon.* $3^x$, *Bry.* $3^x$, *Sulph.* 6. | Ditto. | 25 |
| S. K. | 39 | Ordinary. | *Bry.* $1^x$, *Rhus* $3^x$, *Nux* $1^x$, *Ars.* $3^x$, *Sulph.* 12. | Ditto. | 39 |
| J. P. | 40 | Severe. | *Bry.* $3^x$, *Rhus* $1^x$, *Nux* $1^x$, *Sulph.* $3^x$. | Ditto. | 36 |
| E. W. | 25 | Ordinary. | *Bry.* $3^x$, *Puls.* 6, *Nux* 6. | Ditto. | 20 |

Thirty-one cases treated. Heart affected in eleven. Average time in the hospital nineteen and a half days. It will be readily seen that under homœopathic treatment the whole of these cases, *including* those with heart complication, nearly one third, were only in hospital on an average nineteen and a half days; while at St. George's Hospital, according to the foregoing tablets, they were under treatment thirty-five days.

It is not stated, and it is impossible to ascertain the condition of convalescence on which these patients were discharged from St. George's. I can only speak on behalf of our own institution; there was no pressure put on our cases. They were generally kept in till they were fit for work: or if the weather were bad requested to remain for a favorable opportunity.

Having furnished these statistics from hospital practice, which illustrate the comparative treatment and its corresponding success in the cure of acute rheumatism, according to the allopathic and homœopathic systems of the present day; and this very important and dangerous disease having created lately such a lively sensation in the minds of eminent physicians and editors of medical journals, I have been led to believe that a thorough review of this interesting subject would not be out of place at the present moment. We will take our stand, therefore, in the sick-room, and note down only such points as are practically useful, giving a few cases, severe and ordinary, as will tend to support any theory that may be offered for consideration among one's colleagues.

I have thought it advisable to divide the symptoms by which this disease is known into two divisions,—an external and internal set. Now, as to the former—the external signs. Imagine yourself at the bedside of your patient, and the first stage of the disease developing itself, and you will have the following appearances standing out in strong relief, viz., you will observe a person, usually between the ages of fifteen and thirty years, lying on the back disabled from pain, which has commenced probably in the feet and ankles, in the hands and wrists, subsequently extending itself, on the one hand, to the knees and hips, and, on the other hand, to the elbows and shoulders. These parts become swelled, tense, elastic, and flushed; the slightest movements in the affected joints giving rise to excruciating pains, described as gnawing and tearing. The fever runs high, and the pulse beats hard and full, varying in number between 90 and 120. The face is flushed, and the expression of the countenance is nervously excited. The skin is bathed, especially at night, in a profuse sweat of a sour, pungent odour, and colours litmus paper strongly. The tongue is coated with a thick, moist, white fur. The thirst is often intense. The urine is scanty, high coloured, acid, or alkaline, in many cases resembling porter in colour, deposits on cooling a large white flocculent sediment, or a red sandy deposit adheres to the surface of the utensil. If the disease be not checked at this stage it will extend deeply into the porous textures and synovial capsules of every joint, but as effusion takes place you will observe that the pains become less agonising and the patient assumes a characteristic position. The healthy appetite for food is in abeyance, and the digestive functions are seriously impaired and exhausted. We will now proceed to the consideration of the internal signs of acute rheumatism. We learn from the modern researches of the chemist and the recent experiments of the physiologist that this disease is associated with, if not dependent upon, an altered condition of the blood. The allopaths base their treatment on this fact; several of their most eminent pathologists regard the vitiated material to consist in an excess of lactic acid, and the experiments of Dr. Richardson with this acid on animals would seem to justify this inference; but this acid is not the only material which is disturbing the balance of health in the circulation; we may find a large excess of uric acid, urate of ammonia, triple phosphate, or, perhaps, oxalate of lime, discharged by the kidneys. The blood besides, in the earlier stage of this disease, contains an excess of fibrine, and a corresponding diminution of blood-globules. With these additional diseasing agencies I cannot see clearly how we can fix our attention on the lactic acid as the sole rheumatism-producing material. Besides, we observe when the acid sweats are most profuse and distressing the symptoms do not seem to be ameliorated, but, on the contrary, the pains and swellings are exaggerated. Let, however, the morbid element floating in the circulation be confined to one, or made up of all those we have mentioned, there can be no doubt that the heart complication, which, unfortunately, is so apt to appear in this disease, is produced by the vitiated blood irritating and inflaming its internal and external surfaces, because we find that if we resort, at the commencement of the attack, to a judicious eliminative method combined with appropriate homœopathic remedies, we can prevent the heart from becoming seriously affected, or if it be already diseased check its progress, and render it amenable to subsequent treatment.

One of the first indications that the heart has become implicated is a sense of pain and oppression over the region of this organ, with hurried and difficult respiration and palpitation. On applying the stethoscope we shall hear a bellows sound, or a rubbing sound, corresponding with the disease as it involves either the integrity of the valves, or spreads over the pericardial surface. Again, should effusion have taken place into the pericardium, we shall have given out muffled sounds and dulness on percussion over the cardiac region. In the latter case the breathing becomes more affected than the pulse, while the mind is listless and wayward, or runs into actual delirium. We will, therefore, take the theory for granted, in which both homœopaths and allopaths do agree, that the *proximate cause* of the symptoms we witness in acute rheumatism is seated in the floating poison in the blood. That we are justified in founding our treatment to a certain extent on this view of the disease I will endeavour practically to show you hereafter, but to ignore the anatomical basis of the real origin of the complaint, or rather the cause of the proximate cause, we shall make a serious mistake, a sad oversight, especially so in reference to a rapid recovery from the acute stage, and to the powers we possess of overcoming the well-known tendency to a relapse during the treatment of the convalescent stage.

I will now try to explain to you where I believe the origin of the disease resides. Briefly, then, in the digestive organs; and I will try to support my creed by the aid of facts picked up at the bedside of the patient. No close observer of this disease, especially when it has assumed the chronic character, can fail to discern the similarity between it and rheumatic gout and neuralgic gout. It is difficult to draw a line of demarcation, they are so intimately blended. We will often see them dovetail into one and the other. They look very much like twin children springing from the same evil parent—a diseased or disordered condition of the functions of the digestive apparatus. The stomach may be disturbed by more influences than one; and in accordance with this variance we may have engendered acute and chronic rheumatism, rheumatic gout, or neuralgic gout with chalky deposits to contend with. We can neither regard them nor treat them as distinct diseases; they blend together so insensibly the one into the other that it is impossible to distinguish them, and certainly would be most mischievous to treat them as different diseases. We may see an excess of lactic acid vitiating the blood in one case, and temporarily exciting an attack of acute rheumatism; while in another we may observe a diseasing surplus of uric acid, urate of ammonia, or urate of soda, or oxalate of lime, which, by their temporary presence or permanent continuance, create acute or chronic rheumatic gout or neuralgic gout. In either case let us not be deceived by appearances, but keep in view the *unatomical basis* of the disease—the digestive organs. Our treatment must be directed to the derangement in these organs, and their restoration to a healthy function as soon as the more urgent symptoms have been attended to. If we will act on this principle in our management of these cases we shall escape from the doubts and difficulties and want of success which attend the practice of those who look only to the chemical pathology and the *materies morbi* in these diseases. It is a very hard and difficult position for the conscientious physician to be placed in when he is called upon to pronounce a differential diagnosis, and to treat these cases as essentially distinct diseases. Even Dr. Fuller admits that acute rheumatism will pass into rheumatic gout; and as to drawing a line between rheumatic gout and neuralgic gout with chalky deposits, my own observations most certainly lead me to the conclusion that such is impossible. The symptoms do and may vary in external feature, but I maintain that they all spring from the same parent cause upon which we must fix our attention from first to last, and be guided in our selection of the appropriate remedy.

My late friend, Dr. Rutherfurd Russell, mentions a case of what he defined a true hybrid of gout and rheumatism, consisting of three quarters of rheumatism and one quarter of gout; and he condemns Dr. Fuller in self-contradiction when he affirms in one part of his work that there is *no connection* between these diseases, while in the other part he writes thus: "I have repeatedly known patients crippled by *unequivocal rheumatic gout,* which *commenced,* in the first instance, apparently as a sequel of acute rheumatism." By resting on the anatomical basis we are released from the perplexing difficulty of reconciling these conflictions, and we are left free to adapt our remedy so that it shall cover the variation in the symptoms as they appear before us. We are not obliged to tax ourselves to diagnose the exact type of the disease, but we must carefully bear in mind during our treatment where the mischief springs from.

*Disturbing causes of the digestive functions.* What are these in the diseases under our consideration? Let us take, in the first place, acute rheumatism, a complaint more rife among the working classes than among the rich and indolent. On close cross-examination of such patients we shall be able to trace one or more very evident causes have been at work to derange their digestive functions for some time preceding the attack. They have been, perhaps, overworked and hurried in their labours; the amount of sleep has been curtailed whereby their nervous system has been depressed, and the usual quota of nerve power has not reached the stomach, liver, &c. Superadded to this very essential item we learn that the food has been of that nature usually deemed hard of digestion; such as vegetables, cheese, bacon, tea, toast and dripping, &c.: or the deficiency in suitable diet has been supplemented by an excess of beer, or spirits have been resorted to in order to shake off the nervous exhaustion and overcome the protracted digestion and its distressing accompaniment—constant flatulence. In any case, I think you will find, if your patient can be induced to speak out, that some mental worry or unusual bodily fatigue has been existing for some time, which has reflected its depressing influence on the vegetative organs. There is an abstraction of nerve force from the stomach, &c., through which loss, digestion is protracted and its healthy secretion weakened and altered. The liver suffers also in the same way; its action is sluggish, and its secretion stagnates and changes, while the pancreas, doubtless, follows in the same wake as its more important neighbours. The secondary process of digestion and the suspended conversion of the food into healthy blood which takes place in the small intestines is the next process that is disturbed. Through these media then you have the foundation laid whereby the blood is so greatly vitiated in this disease with its fearful reaction on the cerebro-spinal nervous centres. The action of the liver being suspended, the skin and kidneys are the only depurating outlets through which Nature would cast out her mischievous burden and preserve the internal vital organs from fatal injury. In order, therefore, to complete the picture as usually seen, the patient has only to catch a cold, and thus put a check on the action of the skin, when the paroxysm develops itself in all its painful intensity and distress; and to confirm my views, you will find that the appetite for food is *entirely* gone, and excessive irritation in the stomach is evinced by the intense thirst which supervenes.

But without further comment let us go to the bedside with our idea, and see whether the scene we witness there in its practical bearings will confirm and coincide with our view.

William H— enters Ward Luke, November 21st, 1868, æt. 41, decorator by trade, well-developed. States that ten days ago, when he was at work, he was seized suddenly with pain and stiffness in the right hand and wrist, then in the left, which rendered him incapable of holding his brushes; he felt a peculiar chill had come over him; he left off work and went home, when the lower extremities became affected like the upper, and he was made quite helpless.' A burning fever came on, intense thirst, entire loss of appetite, and the urine was passed as dark as porter; sleepless nights; felt a burning pain through the sternum. His state on admission.—Lies in the characteristic position, stretched out full length on his back; the upper and lower extremities stiff and painful, and their joints slightly puffed; skin bathed in acid sweats which redden litmus paper; feverish at night with sleeplessness; pulse not much agitated, feeble in its beat; the heart's action free from any bruit, and with no "thud;" breathing quiescent, but there is a slight tickling cough; tongue is red, and there is intense thirst; appetite for solid food gone; bowels inactive for ten days; urine very dark, and deposits a large quantity of urates; has an acid reaction. The complexion is sallow and cachectic looking, indicating a vitiated blood. On questioning this man as to his state of health prior to the attack, I learn that he had been working "over hours" for five or six weeks, and had deprived himself of his usual quantity of sleep; he then found his appetite for his usual diet failed him, and his stomach got squeamish and would not digest properly. Thirst supervened, and to allay this, and overcome the increasing languor, he drank large quantities of beer; he observed his urine getting very dark, like blood, he said; his nights were restless, and he felt himself getting weaker and weaker, and then the attack came on in a draught of cold wind. Thus we have traced the anatomical basis, and in our treatment we shall be careful to keep it in mind. He was ordered *Bryonia* every two hours.

November 23rd.—Claret ʒv, seltzer water ℥j, ʒss every second hour. To have plenty of good milk and strong beef-tea.

24th.—Sleepless at night. To have *Belladonna* every hour at night till sleep comes on.

25th.—Has passed a more comfortable night than he has done since his attack. I may here observe that I find *Bell.* at night most serviceable, in acute rheumatism, in securing sleep and repose. It has none of the bad effects of the "*Dover's powder*," which the allopaths give for the same end; his pains are less severe, and he sweats less. *Bryonia* therefore, is doing duty well, otherwise I should have ordered *Gelseminum* to-day.* The urine is not so dark, but the deposit is still great. I find that the claret and seltzer not only assists as an eliminative, but quenches the distressing thirst, supports the nervous system, and disposes the stomach to take more nourishment. Bowels costive for fourteen days; no uneasiness therefrom; apparently empty on percussion; not to be meddled with; pulse 80, quiet and regular; heart keeps free from diseased sounds. Not so thirsty; finds the milk and beef-tea very refreshing.

26th.—Urine acid and scanty; sp. gr. 1033; deposits on cooling about one eighth of a reddish-brown sediment, which, under the microscope, proves to be crystals of uric acid and amorphous urate of ammonia. To have ℥j of brandy in Oij of new milk.

30th.—The urine is free from sediment to-day. He is able to draw up the right leg, and to raise the right arm from beneath the bedclothes; but the left side continues helpless from pain, otherwise his pains and sweats are less; sleeps more, and generally feels more comfortable. This sudden improvement in immediate conjunction with the change in the character of the urine is very interesting and confirmatory. The appetite for solid food is still in abeyance. The milk, with the brandy in it, seems to suit him well; the pulse is quiet; and the heart's action nearly noiseless. To have ʒij of brandy in Oij of milk, and strong beef-tea. Continue *Bryonia* and *Belladonna.*

December 2nd.—Pulse 76, fuller; urine clear; has a troublesome cough; stronger.

4th.—Pulse 68, stronger; urine clear, 1031, rather dark, about Oij passed in twenty-four hours. Had a very free stool to-day; feels his appetite for solids is returning. Can now raise the left arm out of bed, and has more power in the left leg; right side nearly well; he feels and looks much better; cough less and sleep sounder. To have *Merc. sol.* at night if the cough returns.

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* *Gelseminum* being found very useful in the *muscular* pains of rheumatic fever.

9th.—Can raise the left leg to-day; urine 1040; Oij passed in the daytime, deposits less of amorphous urate of ammonia; appetite returning; has had fish the last four days; sweats only at night; heart and pulse quiet; no cough. As the pains were leaving the joints and flying about him he was ordered *Rhus tox.* instead of *Bryonia.*

11th.—Better; can sit up in bed; urine alkaline; deposits phosphates. Ordered *Nux vomica* ter die, and some minced meat.

14th.—Much better; feels well enough to get up and be dressed; appetite ravenous; urine still alkaline; and deposits phosphates; bowels regular; tongue clean. Continue meat and milk, claret and brandy.

16th.—Was up and dressed yesterday; could sleep on his side for the first time since his attack; urine the same; sweats gone. To have a hot sea-salt bath. Convalescent.

23rd.—Feels quite well, and wishes to be discharged, but the weather being unfavorable I feared a relapse might ensue, so I advised him to remain a few days longer in our hospital. For the last few days he has been convalescing rapidly; the urine has become perfectly normal, and his digestion strong. The sea-salt hot baths have been much enjoyed, and have created quite a healthy skin action. Heart's action and the pulse regular.

30th.—Discharged in good health and spirits, and ready for work. Very grateful for so rapid a recovery. This is the second time that he has derived similar benefit from our system. He was an in-patient a few years ago, and suffering from the same complaint.

I will now give you another severe case in which we can trace this disease to weakness, and a depressed and disordered condition of the digestive organs.

John E—, æt. 44, clerk in a furniture store, was admitted an in-patient October 3rd, 1868, suffering from acute rheumatism. He states that he had a similar attack two years ago, and was two months getting convalescent under allopathic treatment. Ten days back he was seized with violent pain in the hands and wrists, feet and knees, the joints of which puffed up with stiff painful swellings, the slightest movement being agonizing; loss of sleep; entire loss of appetite, but great thirst.

Before the attack he had overworked himself; his occupation was associated with much hurry and anxiety; he had no regular meals; his sleep was curtailed, and he gradually got weaker, and lost his appetite. In the draughty buildings in which he worked the seizure occurred.

*Present state.*—The skin is bathed in a profuse acid sweat; he is stretched out full length on his back, complaining of great pain in the joints of the upper and lower extremities, which are swelled and stiff; his face is excited and anxious-looking, as if the heart were involved; pulse 82, and jerking; heart's action regular, and no bruit heard; tongue is dryish, and furred at the back; no appetite; thirst intense. To have *Gelseminum* every four hours; seltzer water ℥j, claret ℥vj, mix. ℥ss every two hours. Milk and beef-tea as a drink.

October 4th.—To have *Belladonna* every half hour at night till sleep comes on.

5th.—Was in great pain all yesterday and the previous night, but is much more comfortable this morning; tongue moist; pulse 80; urine thick, and deposits urates; sp. gr. 1028; about ℥xxv passed. Last night he had sleep for the first time for four nights. Complained yesterday of much flatulence about the abdomen, and of slight diarrhœa. Fæces greenish.

7th.—Tongue is now clean; pulse 88, still jerking; arms and hands relieved, but great pain on any movement; urine 1032.

9th.—Pulse 88, softer; urine free from sediment; pains in the limbs better; a bruit is heard over the cardiac region.

11th.—Diarrhœa exists; urine clear like water. Omit the seltzer water and claret; a grating, blowing sound heard over the heart.

12th.—Diarrhœa continues; pulse small, soft; sweats less; face looks better. To have *Arsenic* every four hours. To have brandy in his milk, and a sago pudding. Omit *Gelseminum.*

14th.—Diarrhœa slight; fæces greenish; pulse 88, soft; tongue coated again slightly; urine deposits an uric acid sediment.

16th.—Pains are leaving the joints and fly about him; diarrhœa gone; tongue clean; urine deposits red sediment. To have claret, without the seltzer, and continue the brandy in the milk. Continue the *Gelseminum* every three hours.

17th.—The bruit has gone entirely; sleeps better; complains of distressing tenesmus, though his bowels are only moved once, and the fæces are natural; flatulent; tongue clean.

19th.—Pulse 100, steady, but weak; feels his pains are going, and are now principally felt in the shoulder; urine deposits only mucus and amorphous urate of ammonia; sweats less and not so acid.

21st.—Pulse 92, soft and quiet; heart's sounds healthy and regular; urine not so turbid, and neutral; saliva acid; sweats only occasionally. As *Bryonia* is homœopathic to acid sweats, I ordered the *Gelseminum* to be discontinued, and *Bryonia* taken.

23rd.—Sweats less; pains worse at night. Continue *Belladonna* at night every two hours.

26th.—Feels much better; pains are all going; heart healthy as to sound; urine clearing and neutral; pulse 90; sweats ceasing.

28th.—Sleeps well, and sits up in bed, and is dressed; meat diet.

November 2nd.—Is now so far recovered that he could go home, but the weather being unfavorable he was ordered to run no risk. Complains only of flatulent dyspepsia. To have *Nux vomica* ter die, and a hot sea-salt bath. Diet: meat, milk, claret and brandy.

19th.—Discharged quite well, and fit to return to work.

This patient had observed since his prior attack that when he was suddenly hurried bodily, or agitated mentally, violent uncontrollable palpitation of the heart came on. Having seen him one day excited, and feeling the heart and pulse unduly agitated, I elicited the above fact; hence I suspect some adhesion of the heart to the pericardium, and hypertrophy of the walls to a certain extent, which would account for the slower convalescence in this case after the first week or ten days of our treatment; still, when comparing the issue with the progress of even a *favorable* case under the allopathic treatment, the cure was rapid. You will remember what Dr. Fuller and others, who have large experience in this disease, say, viz.:—"That in favorable cases we are fortunate if the patient recovers in six weeks, but if the heart be implicated we must expect him to be crippled for three or four months, or more." It was most interesting to watch the case, and the rise of the valvular mischief, when the flatulence, tenesmus, and diarrhœa, with the greenish fæces, came on, and how the diseased sounds gradually disappeared as the digestive functions were righted and proper sleep restored. It is wonderful the influence that *Aconite*, *Bryonia*, or *Gelseminum* possess in checking a cardiac relapse, and in relieving the disturbed condition of the cerebro-spinal nervous system, especially if we are careful to second their powers by gradually eliminating the floating *materies morbi* from the circulation, and preventing its reformation at the digestive organs, by guarding these, and keeping up their healthy functions by concentrated fluid nourishment and gentle stimuli, not forgetting to secure the aid of sound sleep, by giving *Belladonna* at and in the night.

I will now give you another case, as an example of those we often meet with in our hospital, when the cure is rapid and complete, the disease having, perhaps, very slightly touched the heart for a few hours, or for a day or two at most, and then disappeared, leaving no trace of valvular change or pericardial adhesion behind; still the articular pains and swellings are for the time as acute as the more protracted.

CASES.—G. P—, æt. 20, a baker, admitted October 6th, 1868, stated that ten days previously he caught a bad sore throat, which made him feel very ill, weak, and dyspeptic, and obliged him to leave off work. Before, however, he had recovered his strength he returned to his business, a very trying one, under the circumstances, as he had to go from the cold air at 4 a.m. into the hot atmosphere of a bakehouse, and *vice versâ.* In about two days he got a chill, and was attacked with severe rheumatic pains in the lower extremities, attended with fever and clammy sweats; great thirst; loss of appetite.

*Present state.*—He lies on his back in the characteristic attitude, with legs and arms stretched out; great pains in the joints; pulse 112; heart's action violent, with a peculiar heavy thud about the second sound; face flushed and excited; tongue dry; thirst intense; bowels costive for four days; appetite entirely gone; skin bathed in acid sweat; sleep broken. To have *Aconite* every three hours. Claret ℥v, seltzer water ℥i, ℥ss every two hours. Milk and beef-tea.

October 7th.—To have *Aconite* and *Belladonna* every second hour alternately.

9th.—Pulse 96, and softer; anæmic sort of bruit is heard; tongue dryish; thirst continues great; sweats still acid; no sediment in the urine. Omit the seltzer, continue the claret alone. To have *Bryonia* every three hours, and *Belladonna* at night.

12th.—Pulse 88; free from pain; tongue clean; bowels open daily.

14th.—Pulse 72, quiet. Continue the same as before.

16th.—Pulse 66, steady and stronger; no bruit or thud remains; bowels quite regular; no pains anywhere; sweats nearly all gone; is up and dressed. To have meat and milk diet, and claret.

21st.—Quite well.

22nd.—Discharged cured.

I will give you one more instance of a rapid recovery in which the patient had suffered previously from similar attacks.

Ellen M—, æt. 19, needlewoman, was admitted November 2nd, 1868. States that she had rheumatic fever two and a half years ago, followed by occasional attacks of a subacute character. At present she complains of pain and stiffness in the joints of the lower extremities, more especially in the hips and knees; slight stiffness also in the shoulders; acid sweats;

feels weak; pulse 128, irregular in force and rhythm; heart, bruit heard with both sounds; tongue brownish and moist; urine high coloured; menses regular. For a fortnight previous to this attack she had been getting weaker; the digestive organs were out of order, the appetite being poor, and the bowels costive.

November 4th.—Complains of loss of sleep; pulse 108, and very weak still; heart's action regular, but attended with a kind of anæmic bruit; sweats are acid; tongue dryish, and coated at the back; urine cloudy.

*Bryonia* was prescribed on the 2nd, and taken every two hours.

To have *Belladonna* to-night every hour till sleep supervenes. Brandy ℥j, in milk Oj, beef-tea, extra strength, Oj.

5th.—She slept better; pulse 96, not so weak; pains in knees and ankles not so severe; sweats are going; tongue whitish; feels stronger; not particularly thirsty; appetite returning. To have some minced meat. Continue *Bryonia* and *Belladonna*, milk, brandy and beef-tea.

19th.—She continued to improve rapidly, and left the hospital to-day free from all signs of the disease, the heart and circulation being normal; the appetite good; she is dressed and walking about the ward without assistance.

You may wish to know why we give *Aconite* and *Bryonia* in acute rheumatism. I will tell you. Both these drugs possess the properties of producing, when given in large doses, profuse sour-smelling perspirations; tearing pains in the arms, legs, knees, and elbows; then a cessation of these pains, and in their place violent palpitation of the heart; a bounding pulse and a sense of tightness across the chest.

Then, again, *Aconite* has a wonderful influence in tranquillising the excited condition of the heart and circulation, and, as we have already observed in the details of our cases, checks in a remarkable degree cardiac mischief in its incipient stage, and also relieves that which may have already existed. You are aware that *Calomel* and *Opium* every three or four hours is the usual allopathic treatment when endo- or peri-carditis supervenes in acute rheumatism. The medicinal disease I have seen set up by such drugs, alternated with large doses of *Alkalies,* is fearful to contemplate, and I hope that I may be forgiven the great mischief which, in my ignorance, I have committed by following the routine allopathic system. It would be a great consolation to my mind if I could place the good I am now doing with *Aconite* as a set-off against the harm I have unwittingly done to many a poor cripple's stomach, &c. It sends a thrill of horror through me when I read what Dr. Fuller writes about *Mercury* in this disease, viz.: "I am fully persuaded that in the acute and sthenic form of pericarditis nothing is of greater service than the remedy in question." I can clearly see now why formerly my own patients, and at the present time those of Dr. Fuller, are so long in convalescing from acute rheumatism—the effects of the medicines being, in fact, more difficult to cure than the original complaint. If my memory serves me right, the following is somewhat of the kind of prescription in ordinary use when the heart is implicated:

℞ P. Opii, gr. ¼ to gr. j;
Calomel, gr. j or ij.
1 pill every 2 or 3 hours,

followed by a draught consisting of fifteen or twenty grains of *Carbonate of potash,* and five or ten grains of *Nitrate of potash,* with or without an acid to effervesce it, every four hours, and continued till the urine is perfectly alkaline, and unfortunately the gastric juice too, whereby the digestive organs are completely upset, and our one grand sheet-anchor on which we can rely for the renewal of fresh healthy blood to replace the diseased is effectually nullified.

*(To be continued.)*

# NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM AFFECTIONS OF THE RESPIRATORY ORGANS AND LUNGS.

By John N. Casanova, M.D.

Writers on climate who have had some personal experience, and compared their own with some of their predecessors' observations, lament the inaccuracy and partiality with which pamphlets and books are written on the subject, and the ignorance of those who praise or condemn localities which they have never visited, or, if they had they visited them for a few hours, only after the fashion of holiday excursionists who go rambling abroad for recreation.

Hence the mistakes which are constantly made in recommending climates to patients which they do not know anything about, and which in the majority of cases have proved to be contrary to their individual temperaments. To prove all this I shall reproduce the censures of a few experienced physicians on the subject.

"Guided as we must necessarily be by reports on particular localities and their climates, and often by interested parties, we are sometimes chagrined and disappointed at results." (Dr. Corrigan, of Dublin, in *An Introductory Address on the Climate of Arcachon in France.*) . . . . "Books written upon especial localities are for the most part so filled with encomiums of the places treated of that we cannot avoid suspecting them of partiality. If, on the other hand, instead of depending upon books we endeavour to obtain our information from persons who have actually sojourned at the various places, we find such contradictory assertions that we are utterly incapable of profiting by them; and this is easily explained, since a patient and his friends naturally praise a place which has agreed with him, and quite as naturally vituperate those places with which he was disappointed." (*Monthly Homœopathic Review,* vol. xii, page 156.)

Dr. Kebbell, in his modest book on the climate of Brighton, which may be held as a treatise on the climate of England, thus writes at page 125 : . . . . "for though the general efficacy of change of air and climate in the cure of diseases is well known, we are still much in the dark respecting the adaptation of particular climates to particular diseases."

Again, at page 126, he observes : "The knowledge we at present possess on this subject, indeed, is, with few exceptions, little better than mere guess-work founded upon very limited and inconclusive data : a fact amply confirmed by the mistakes which are constantly made, even by the best informed, in sending invalids to climates which are found upon experience to be quite unsuitable to their complaints and constitutions ; and it is only, perhaps, after repeated trials that the proper climate is found."

In Dr. Chambers' excellent little work* on *Some Effects of the Climate of Italy,* pp. 4—6, we read as follows :—

"Physiological induction not aiding, the next best guide to the right use of a remedy is observation conducted on a large scale by the collection of independently recorded facts. One might in this way have a fair means of judging what morbid changes promoted by one climate are likely to be counteracted by another. But above all things it is necessary that these facts should not be collected in the spirit of an advocate, to praise or to condemn ; they must be recorded without a purpose. Upon such body of evidence, however, I could not find that any of the opinions about climate, especially the climate of Italy, rested. . . . . The bigger monographs give a list of indigenous plants with a history of the place from the time of the Romans, and the smaller ones do not, and there is an end. The more comprehensive works are still less satisfactory, for they merely inform you that the climate has its advocates and opponents, whose opinions they repeat, and leave you with a table of mean temperature suspended in a fluctuating balance of opinions."

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* Although small in dimensions the information contained in this little book is more genuine than what has hitherto been conveyed in larger volumes on the same subject.

And the censures are not only made by professional men, but also by the laity, thus, Captain Sayer wrote an article in the fifth number of the *Fortnightly Review* for July, 1865, on the "DANGERS OF MADEIRA,"* in which he deplores the ignorance of those who recommend climate as a remedy without practical knowledge of its influences. "It was only recently," he writes, "that a medical man ordered a batch of his patients who required a dry tonic atmosphere to winter in Alexandria: his advice was founded upon the idea that the climate of Egypt was dry, but he was ignorant of the difference between Upper and Lower Egypt, nor was he aware that while the one has an atmosphere of 6° to 7° of dryness, the other is saturated with 10° of moisture. In another case a pulmonary patient was sent to Cairo in the height of summer. Fortunately for him his travelling companion broke down under the excessive heat of the journey and both returned home. Had they reached Cairo it is not probable they would have left it alive. When the consequences were told to the physician he expressed his astonishment, as he had always been under the impression that the climate of Egypt was favorable to health. He was ignorant of the difference between summer and winter."

Reproaches of the kind could be reproduced in a greater number were it necessary, but the limits of these pages do not allow to increase the number. They all agree, however, in the main point, namely, that there is, generally speaking, great carelessness, if not ignorance, in the selection of a climate and site of residence adapted to the invalid's temperament,—that is to say, to the predominant system of the different elementary parts of the organism which give rise to a tendency to certain phenomena of the human body and mind; and which for the sake of regularity I have divided into two different groups, with the nomenclature of all the authors on temperaments from the time of Hippocrates, viz.:

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* It must be understood that the title of this article cannot be applied to all temperaments, but only to those to whom the climate is unsuitable; for there is more or less "danger" in every climate when the adaptation to the individual constitution is not perfect.

1st. Sanguine, choleric, bilious (*yellow bile*), and nervous.

2nd. Lymphatic, melancholic, phlegmatic, and atrabilious (*black bile*), which are more or less admixed in one person;* but the predominent one of each group, respectively, is the *one* which establishes the temperamental type.

Humoral as the above division may appear it is nevertheless founded on the physiological dispositions of individuals to be more or less endowed with vital energy, viz., active in those of the first group, and passive in those of the second, which dispositions are characterised by the antagonistic effects produced on them by the climate.

Dr. Sutherland was quite right when he said, in the *Monthly Homœopathic Review* for August, 1867, page 463, that "every climate may be looked upon as a remedial agent adapted to some form of disease or idiosyncrasy of constitution," and a few lines below he rightly states that "the key to a successful administration of climateric influences has hitherto been enveloped in obscurity; may it not be that the physician has generally committed two errors in this department?

"1st. In attempting to judge of a climate of which he may not have had personal experience; and—

"2nd. In adapting the climate to the patient instead of the patient to the climate."

In a therapeutical point of view, the term climate is synonymous with *medicament, drug remedy,* &c., which imply one and the same thing; viz., an agent capable of modifying some physical and moral disorders, and of giving power and vigour to the human body when ill. Its physiological influences on the healthy organism are subject to the individual's impressionability, on which, like many other disturbing forces, climate tends to evolve certain forms of diseases similar to those which it tends to cure. But we must not confound this property with its toxical effects. The former is manifested when a very sensitive person has been under its influence during a certain period of time; and the latter when the air becomes degenerated in defect or in excess of its normal constituent elements. Then the climate becomes poisonous, and imparts its deleterious properties to rational and irrational beings, causing epidemics and death.

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* Napoleon the First was considered to possess three different temperaments, or at least a mixture of bilious, choleric, and sanguine (the former being the predominant), which made him impetuous, disposed to anger, audacity, temerity, quarrels, and sedition. He often complained of the ill effects they had in deranging his temper; but is said by M. Ségur to have added: "*Cependant,* sans *cette maudite bile on ne gagne pas des grandes batailles.*"

It should be borne in mind that, although climates tend to develop morbid states similar to those which they tend to cure, their therapeutic mode of action is not absolutely subject to the law of similars in every individual temperament, nor in every disease, *e.g.*, intermittent fevers are generally cured by climate alone in localities where no vestiges of malaria are present, because of the antagonism existing between the constituting elements of the climate and the disease. But phthisis pulmonalis from hereditary transmission will find protection in a paludal district, on account of the similarity existing between this disease and the morbid effects of the climate on the healthy subject. The same is the case of lymphatism and scrofula. Whenever the native inhabitant of a place shows a diathesis of the second temperamental group, there will be the refuge for invalids bearing the type of such a group, contrary to what happens with respect to phthisis pulmonalis; for it has been observed that this malady is more successfully treated in localities where the natives enjoy an absolute immunity from it, than where it prevails to a more or less extent.

In asserting that hereditary phthisis is curable, when not too far gone, in malarious districts, we must not confound phthisis of individuals belonging to the first temperamental group with those of the second, the former being curable, but not the latter, as I have endeavoured to prove in a paper read before the Northern Homœopathic Medical Association, at the semi-annual meeting held in Huddersfield, May 12th, 1865, and published in the ninth vol. of the *Medical Homœopathic Review*, pp. 358—70.

Speaking of the climate of Rome, Dr. Chambers, loc. cit., page 67, observes:

"It is year by year more unhealthy. Yet even here you will find people resorting for health and gaining it too, though under disadvantages they would not have elsewhere in Italy." And who are those, may I be permitted to ask, who *gain* health in a paludal climate like Rome? Had Dr. Chambers distinguished the temperaments of those who have been benefited by it, he would have found that they were subjects belonging to the first temperamental group. He, nevertheless, acknowledges this to be a fact in page 78, where, in warning invalids, he thus writes:—"The places specially to be avoided by the neuralgic, hypochondriac, and hysterical (synonymous with the temperaments of the first group), by all, in short, when the vitality of the nervous system fails, are low-lying, moist, relaxing places inland, such as Rome and Pisa. With exception of a few localities of this character, the whole of the Peninsula is open to them." (That is to say, to invalids of the second temperamental group, requiring, not a relaxing, but a bracing climate.)

From what has been stated in the preceding pages, we may come to the following conclusion, viz.:—that climate, like all things on earth, either cures or kills; 1st, by its right use; and 2nd, by its abuse.

Independent of hot, cold, and temperate, authors generally divide climate into two different heads, viz.: *exciting*, and *sedative*. To this division I venture to add two others which I will name—*neutral* and *mixed*. And be it understood that the stimulant and depressing properties assigned to the two first mentioned respectively, do not exert their specific action uniformly in every individual temperament whether in health or in disease; for that which is sedative to one, is apt to become exciting to another person, as will be seen in the following pages.

The so-called exciting climate is peculiar to some localities near the sea, and distant from rivers, lakes, and swampy soils; generally deficient in arboraceous vegetation; subject to sharp, cold, dry winds, and to sudden transitions of temperature. It generally contains more or less ozone, the superabundance of which constitutes a peculiar state of the atmosphere, rendering the air positively electrified or ozonified. It is adapted to invalids of the second group whose vital energy is more or less defective with impoverished blood, labouring under a general atony from chronic ailments either general or local; and whose disposition of the mind is inactive, torpid, timid, and spiritless. Therefore, it is contrary to temperaments of the first group, on whom it acts as a depressor.

The sedative climate is also to be found in regions close to the ocean, but principally inland, near rivers, lakes, forests, and in marshy districts, low and alluvial formations. It is, generally, of a sylvan nature, and possesses a mild temperature and humid air, and is more or less sheltered from high winds. It is generally very deficient in ozone, the absence of which constitutes a negative state of the atmosphere, and renders it unsuitable to invalids of the second group, on whom it acts as a powerful excitant poison; but favorable to those of the first, on whom it exerts a depressing action.

Dr. Jackson, in his *Medical Climatology*, page 16, has given us a hint on the adaptability of the two above-described climates in the following words:—" . . . . a dry air being powerfully tonic and stimulating, is agreeable to persons of relaxed habits of body and leucophlegmatic temperament, because having a large capacity for moisture, it tends to carry off from their bodies those stagnant and depressing humours which clog the organic functions.

"But, on the other hand, they who are nervous and irritable, and of sanguinolent constitution, cannot bear the excitation caused by a dry air; they require a certain amount of moisture to allay the excess of tonicity already existing."

There are two other terms generally used to designate the properties of the two climates above described, in reference to their effects on the organism, viz: "*relaxing*" and "*bracing,*" which are synonymous with "*exciting*" and "*sedative.*" They are often misunderstood, and, therefore, misapplied. It is a true saying that a misapplied or misunderstood term keeps a man full of illusions, and, at the same time, it perpetuates errors.

The properties of a bracing (exciting) climate, being what the verb itself implies, viz., to stimulate, to call into action, &c., are contrary to invalids of the first temperamental group, as already stated, whose state of excitement calls for a soothing atmosphere, to assuage and to appease the nervous and vascular energy. And, notwithstanding this, we often see patients belonging to the first group sent to a bracing (exciting) climate, instead of a relaxing (sedative) one.

In the like manner, the properties of a relaxing (sedative) climate, which consist in loosening, making languid, abating and assuaging the system, would be unsuitable to invalids of the second group, who require to be roused up by stimulants, *i. e.* by a climate where some sharp and keen local dry winds prevail, and where ozone is low, but not absolutely wanting. In spite of all this, invalids of the second group are recommended to sojourn in a relaxing (sedative) climate, instead of an exciting one.

A neutral climate is peculiar to localities situated between the two former climates. I venture to call it so, because it is neither the one nor the other, and yet it partakes of the qualities of both in a moderate degree, and is free from extremes, and from sudden transitions. It is well adapted to invalids of all temperaments, for convalescence rather than for the cure of disease.

A mixed climate is to be found in large towns and districts, whether distant or near the sea, and at different elevations above it. It is subject to sudden transitions of temperature. Its degree of dryness and humidity alternate with each other, according to the quarter from which the wind blows, and according to the degree of ozone in the atmosphere.

When two or three different climates are found to exist close to each other, in a large town, or in a district or locality of certain extent, we say that there is a mixed climate in such town, district, or locality; *e.g.*, Brighton, taking the whole extent of its locality, which is from three to three and a half miles east and west, and from one to one and a half north and south, possesses a mixed climate, each one having a site of its own, viz., the eastern division is exciting, the central sedative, and the western neutral.

Taking the characteristics of a mixed climate into consideration we shall find that the exciting predominates wherever the mixture exists; and that its mildness or acrimony vary according to the quarter from which the ruling winds blow, as before stated, and to the exposure of the locality. For instance, in some parts of the south-east coast of France and Italy, we find that its exaggerated proclivities are such as to render it unsafe for anyone to leave the house after 4 p.m. without an overcoat as a precaution, notwithstanding the usual smiling appearance of the sky. Such kind of climates were called by Louis XIV, "*Coquettes parfumées dont il faut se mefier.*"

England also furnishes us with climates of the like description. Bath, an inland town,* Brighton, a town on the English channel, and Southport, on the north-west coast of Lancashire, are the principal places, according to my personal experience, where they are to be had within a short distance from each other, in the same locality. This is a great advantage to invalids, for they may be removed from an unsuitable site to another in a few minutes' time.

I shall not enter into the physical cause of the multifarious climates which may be procured in some large towns, or in a locality of certain extent. Dr. Fuller believes that the electrical condition of the atmosphere is the cause of that phenomenon, independent of the geological formation of the soil, of the temperature, and of the degree of humidity or dryness of the air, as he says in his work on *Diseases of the Lungs*, p. 483, "On what other supposition is it possible to account for the vast difference existing between the so-called *bracing air* of Brighton and the *relaxing atmosphere* of Hastings? The two places are within a few miles of each other, and both face the south, both are washed by the same waters, shone on by the same sun, and do not differ more than one or two degrees in thermometric range."

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* See a description of its climate by myself in the ninth volume of the *Monthly Homœopathic Review*, p. 367.

Dr. Fuller's supposition with regard to the electrical condition of the atmosphere is quite right; but there can be no doubt that the quality of the climate is as much modified by the local agents (those of Brighton being different from those of Hastings in every respect), as it is by the constituting elements of the air, both in quantity and in quality, the principal of which is oxygen and electricity combined, to which Professor Schönbein has given the name of "OZONE."

*Apropos* of ozone, or electrified oxygen, I beg to digress for a minute or two, in order to state my experience on the action of this atmospheric element, which I believe to be analogous to that of *Bromine* and *Chlorine.*

When inhaled in small proportions, diluted with atmospheric air, ozone relieves affections of the respiratory organs and lungs, and in large doses it aggravates them, and ultimately it will extinguish life. All these effects I have observed in England and France since the year 1862, when I began to devote my leisure hours to investigating the subject practically, and found that ozone exists in a greater quantity, generally, in the latter than in the former country, especially in some spots of *Arcachon,* near Bordeaux, where, in the winter of 1866-7, I witnessed many recoveries, many aggravations, and several deaths (according to the peculiar spots where it is found in excess, or in defect, and according to the individual constitutions) amongst the English families residing in that new winter station. The quantity of ozone was such, at times, that I frequently saw it reach the highest degree in some parts of the forest, while the lowest degree and total abstinence prevailed in the borders of the basin the same day when death took place, in each respective spot, which are within 400 to 500 yards distant the one from the other, a phenomenon which I found peculiar to that locality, and, perhaps, it is so with respect to others similar to it, for ozone is most generally found to exist in a greater abundance on the borders of the ocean than at some distance from it, that is to say, in dry, sandy, or chalky soil, free from vegetation, whereas in low, marshy spots, like some in the east and north-east part of

Arcachon, ozone is very seldom seen to reach a few degrees, carbonic acid gas being the predominant element in that atmosphere. It should be borne in mind that Arcachon is not on the borders of the ocean, but on the south west side or edge of an inland sea, called the basin, about ten miles from the former.

Although the climate of those spots has proved to be fatal to several unfortunate invalids, who had no guide to lead them to the most suitable site of residence, according to their respective temperaments, they are, nevertheless, climates favorable to others suffering from the same disease, but differently constituted, as will be seen in a medical guide to the principal winter stations in the south of France which I am preparing for the press.

The doctrine which absolutely condemns oxygen in its normal condition,* and that which advocates its use,† without regard to individual temperaments, does not agree with my personal experience, which has taught me to ascertain its properties practically, and to choose the most suitable site of residence for invalids to whom this therapeutic agent is favorable or adverse.

To return to my subject, I beg to obsérve that when more than one climate is found to exist within the limits of a town, or a locality of certain extent, care should be taken to recommend the site suitable to the patient's constitution. It is not sufficient to tell him go to Brighton, to Arcachon, or to any other place, but essentially necessary to designate *where to* in those places. This is a point in which the success of the cure depends, or, as Shakspeare said, *"on your choice depend both safety and health."*

I have very often seen the evil effects of an ill-chosen site of residence, and found that the one which has proved to be beneficial to A has invariably been injurious to B suffering from the same disease as A, because of the different individual temperaments.

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* See Dr. Sales-Girons' *Therapeutique respiratoire*, Paris, 1858. (*Pour le traitement des maladies de Poitrine.*)

† See Dr. Birch, *On the Action, Use, and Value of Oxygen in the Treatment of various Diseases*, &c., 2nd edition, London, 1868.

"How constantly do we see patients benefiting in localities where we should never have thought of sending them, and others deriving no advantage whatever in spots which have been meteorologically chosen?" said the editors of the *Monthly Homœopathic Review*, vol. xii, p. 158. This proves that the individual temperaments were overlooked in the choice. Had the localities been chosen according to them instead of by meteorological data, the result would have been just the reverse.

"What has hitherto appeared mysterious and inconsistent in medical experience," says Dr. Chambers, p. 83, "is: that one case has received benefit, and another called by the same name has received only injury from a residence in the same spot. . . . . It is easy, for example, by inquiry, to find instances of pulmonary tubercle in the first, second and third stage, which have decidedly improved during a residence in Italy, and equally easy to find the same number of corresponding cases which have died, or got worse quicker than they probably would have done at home. The difference between them will be found to lie in the diatheses which I have enumerated." He alludes to a weakness of circulation, and a consequent tendency to chronic and degenerative changes. But what is involved in the seemingly mysterious phenomenon is the difference of individual idiosyncrasies; for, if one of the two is benefited the other must naturally be injured. The climate of the same spot cannot suit two differently constituted subjects, although similarly affected.

Dr. Chambers is the only physician, so far as I know, who has, unlike his predecessors, taken a right view of climates by studying them, not after the old thermometrical fashion, nor from clinical reports and observations, but from physiological induction, that is to say, by ascertaining their influence on the healthy subject—native and stranger—and by distinguishing the phenomena in each individual, respectively, viz. "What morbid conditions promoted by one climate are likely to be counteracted by another? or, What forms of diseases are prevalent or fatal? and What are rare and not fatal?" By these means we shall be better qualified to administer the climate most suitable to a given temperament in such diseases where there is a "tendency to slowness of repair, a proneness to dilapidation, a weakness of circulation, and a consequent tendency to chronic and degenerative changes which are curable and cured" by either of the two climates already alluded to; and not "in anything special in the several pathological changes by which their ailments are named."

By adapting the climate to the individual's temperament, we also adapt it to his complaint, be it what it may, with very few exceptions, according to Dr. Chambers' pathological nomenclature above quoted. The exceptions are as follows, according to the same writer, page 84:—"All those to whom excitement of the circulation is injurious should flee the country. Persons of *apoplectic habit* run great risk there, as may be seen by comparing the comparative number of deaths from that cause at Genoa with those in London, in the table at page 37, where it will seem that proportion is nearly double. Those also who have a tendency to *congestive inflammations*, such, for example, as cases of sharply-beating hearts with imperfect valves, who are apt to have *pneumonia* quickly supervene. Harm is also done to early cases of *tubercular consumption* with a quick excitable circulation, and a liability to hæmorrhage; whether that hæmorrhage appear externally as hæmoptysis or is extravasated in the pulmonary tissue. *Piles* also, and *menorrhagia*, are made worse, and sometimes brought on, by travelling in Italy, in spite of precautions. All such cases, therefore, should be warned off and, indeed, often are warned off by the honest medical advisers resident in the country."

By a close examination of the above exceptions and those mentioned in page 78 of Dr. Chambers' book, quoted in one of the preceding pages (page 203), I find that individuals of the first temperamental group only are subject to the predispositions and diseases therein named. And believing the climate of Italy to be exciting (on the Mediterranean coast principally) the "warning off" is, and ought to be, exclusively restricted to invalids bearing the type of said group.

In recommending climate as a means of cure, abroad or at home, we must not lose sight of the proper season of the year to obtain it, viz. summer for temperaments of the second group and winter for the first. Dr. Chambers differs with me in this respect when he writes, page 69: "The principal reasons which I have for thinking highly of the effects of a trans-alpine climate in renewing to more vigorous life certain morbid states of constitution, do not apply to one season more than another. The causes to which I have ascribed those effects are more or less in action all the year round. So that I should have no hesitation in recommending a permanent residence as the most complete cure for the degenerative diathesis, by which I mean the most sure way of preventing a recurrence of the evils it entails." Such may be the case with respect to the climate of Italy, of which I have no personal experience, but it is not so in England, France, Portugal, and Spain, as far as Gibraltar, where I became practically acquainted with the stated peculiarity of the seasons of the year.

I agree with Dr. Chambers in recommending a permanent residence abroad in a place where an invalid may be able to alternate the changes in winter and summer within a short distance from each other, instead of returning to England in the latter season. For instance, in Madeira, in some of the Canary Islands, and in Corsica, where he may reside on the coast during the winter, and remove in summer to the mountains, at the elevation of from 4,000 to 8,000 feet above the level of the sea. But not exclusively in one and the same place, unless there is a uniformity of seasons all the year round, and I doubt if such a place exists in any locality of Italy. Such changes will prevent the recurrence of evils which undoubtedly will take place in England, where the patient will be more liable to relapse by a fresh cold, which will place him in a worse condition than when he first started.

What is true respecting the misadaptation of climate is also true with regard to the misadaptation of mineral waters, whether terrestrial or maritime. Hydrologists, who generally assert the waters of their establishments to be the best remedies in the world for many complaints, pay very little attention, if any, in adapting them to the right temperament; the consequence is that patients to whom they are unsuitable become aggravated, and ultimately die. I speak from personal experience, having resided the last two years in the south of France and visited the principal springs in the departments of *Landes, Basses,* and *Hautes Pyrenées,* where I have met a few honest advisers who would warn off unsuitable cases sent to them; and from what I have observed, generally, I come to the conclusion that so long as the right adaptation is overlooked, and the disease confounded with the temperament, there will be no certainty in the administration of those powerful therapeutic agents.

Moreover, in treating diseases with other remedies different from the powers of the climate, it is of great importance to treat them with such as are also adapted to the individuals' temperament, whether the adaptation be in conformity or not with the law *similia similibus;* for all substances taken from the animal, vegetable, and mineral kingdoms, are not equally adapted to every constitution, even when the symptomatic group developed by them is similar to the disease. This is the reason why failures often occur in treating morbid states with remedies perfectly homœopathic to them, but imperfectly adapted to the invalid's constitution. But when the medicament is adapted to the temperament, and its homœopathicity agrees with the disease, then the cure is most certain.

There are some remedies, however, which, like a neutral climate, would suit every patient suffering from one and the same disease irrespective of temperaments, but these are very few indeed. There was a time when my thoughts were directed to adapt a particular medicinal substance to a particular race of men. That was in 1833. During my daily attendance to the General Hospital of Calcutta, under my esteemed and lamented friend, Dr. W. Twining, one of the physicians to that establishment, we discovered that among the great number of cholera patients on whom experiments were instituted with tobacco-smoke enema, there were some who got well or were relieved much quicker than others, even when in a hopeless state. And in searching the cause of this phenomenon I found that the remedy was unsuitable to Europeans from the north, who generally are of a sanguineous temperament, while it was perfectly adapted to southerners and natives of India. Some of my observations were published in the *Transactions of the Medico-Chirurgical Society* of that place, from which periodical they were reprinted in a separate form and published *in extenso*, Philadelphia, 1834.

When in Spain in 1852, I carried on my experiments on a larger scale with remedies which were unknown to me when I was residing in Calcutta, and found that patients from the northern provinces were sooner relieved and cured, when not too far gone, with *Veratrum album,* which comes from the north and grows in the mountain tops, than with any other remedy among its analogues; whereas *Ipecacuanha, Nux vomica,* and *Camphora,* which are productions of the south, were better adapted to meridional individuals.

Also in the West Indian Islands, with respect to yellow fever, I found that Anglo-Americans and Europeans from far north were better treated with *Aconitum napellus* than those from more southern latitudes, who required *Crotalus, Ipecacuanha, China, Cantharides,* and *Opium.* And lastly, in Europe, when proving CEDRON (see the fifth and sixth vols. of the *Monthly Homœopathic Review*—the fifth particularly—p. 208—14, from which I have quoted my own words on the subject). This is one of the few remedies which, like a neutral climate, suits all temperaments, not for convalescence, but for the cure of a great many affections of a regular periodical type.

I must add, in conclusion, that the study of adapting drugs to the different races of men, led me to the practice of adapting climate also as a remedy to the different temperaments; a practice which I have not yet seen established systematically by any one, although a great number of writers have given hints on the subject; and Dr. Teste has confirmed my ideas when he says, in his *Materia Medica,* published many years after my observations were issued from the press, that "each of our drugs is exclusively adapted to the endemic diseases of the country where it is obtained, or at most to individuals whose constitution is identical with that which is generally possessed by the inhabitants of those countries."

The most classic proof of the adaptability of different remedies (climate included) to the different individual temperaments in the cure of disease, is to be found in the fact that different symptoms are generally manifested in two differently organised individuals, on whom provings are instituted with one and the same medicinal agent during health.

Diet is another subject of consideration in treating diseases of the lungs, particularly; for there are articles of food better adapted to one than to another temperament; and yet we often see the *hydro-carbons* recommended without discrimination when the *carbo-hydrates* would have been preferred and *vice versâ*.

So much for the distinction of climates and for the discrimination of temperaments to which they are particularly adapted.

Let us go now to the localities in the departments of *Gironde, Landes, Basses,* and *Hautes Pyrénées,* where an especial one may be secured according to the individual organization.

(*To be continued.*)

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# ON HALLUCINATION DURING POISONING BY SANTONIC ACID.

By Dr. Edmund Rose, Assistant-Physician to the Central Deaconess House, Bethany, Berlin.*

One result of the experiments which I communicated some years ago was the manifestation of the following series of phenomena of visual illusion in persons poisoned by *Santonic acid.* They are reducible to three perfectly distinct classes. 1st. Every one, however small the quantity taken in many instances, was prevented by it from recognising violet light. The consequence is, that the subject of intoxication sees the spectrum as if curtailed at the violet end, overlooks everything of a pure violet colour, whilst in all mixtures containing violet and yellow the complementary yellow appears to predominate. This condition has been long known by the name of "yellow-sight" (Gelbsehen), from the last-named symptom, because that is the most obvious and striking of all the symptoms; and it consists, demonstrably, in a paresis of the retina.

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* From the *Archiv of Pathol. Anat.* Bd. xxviii. Hft. 1 and 2.

Quite of a different nature is the next class of phenomena, which are attained by a higher degree of intoxication. The subject of it is then unable to distinguish colours which on the healthy make not only a different but even an opposite impression, such as lilac and dark grey, or violet and black; nor is it merely that he confounds these colours with one another, but there are always a great many which, however dissimilar they are in reality, yet seem all alike to him. And it came out, on closer examination, that the colours that are mistaken for each other had always a different degree of purity and strength, which, however, continues unalterably the same for each colour; so that when one has exactly determined by measurement the purity and strength of two colours that are thus mistaken, one can with perfect certainty and precision determine *à priori* by calculation with which two of all the other colours these two will be confounded. For in this stage of the intoxication there is hardly a single colour which the individual can with certainty distinguish from the rest: each one resembles an endless number of others; and thus the infinite host of colours which a healthy person can appreciate is reduced to an extremely small number. And this stage first manifests itself in the fact that all colours, the darker they really are, so much the more resemble a tint between violet and ultramarine, with the determination of which tints all other changes of colour, as shown above, become self-evident. With this there occurs that sensation belonging to the inactive state of the eye which we call black in this kind of colour; which is the more remarkable, inasmuch as the individual in that state soon becomes, as a rule, yellow-sighted! The yellow-sighted subject ceases to receive the impression of pure violet light, but if he gets into this higher degree of intoxication at once all dark objects begin to appear of a colour which, had he continued merely "yellow-sighted," he could not have perceived at all. So to distinguish these two phenomena I have called the latter "violet-sight." However the two cannot properly be placed in direct contrast, since they present themselves as belonging to two entirely different kinds of visual illusion, neither of which either necessitates or excludes the other, being in fact quite independent phenomena.

The yellow-sighted cannot at all perceive certain impressions of light; violet rays are no more to him than the invisible thermic and actinic rays: he is "colour blind." The violet-sighted, on the contrary, and the Daltonist, likewise, as a rule, as I have shown elsewhere (Gräfe's *Archiv*, bd. vii) sees every colour—is susceptible to every stimulus of light; but ever so many of them invariably make the very same impression. He is not colour *blind;* he merely *confounds* the colours systematically.

Thus there regularly occur, after taking *Santonic acid*, two kinds of phenomena—1st, yellow-sight; 2nd, just as certainly, but only after stronger doses, violet-sight. Both have this feature in common, that they are dependent on the external stimulus, the entrance of light. They are essentially different from a third class of phenomena, which are independent of the entrance of light, and are almost exclusively, and always most clearly and beautifully, observed in perfect darkness. Inasmuch as they consist in actual sensations without objective stimuli, they are sufficiently characterised as "hallucinations;" just as Cardanus long ago remarked on his visions, that he only had them in total darkness: if he tried to see them with his eyes open he saw nothing at all. "Animadverti si id agam apertis oculis, me nihil prorsùs videre" (*De rerum varietate*, p. 543, cap. 43, lib. viii, *Basileæ*). Here, again, the violet played a prominent part, as in yellow-sight (of the violet-blindness), and as in violet-sight.

Now whilst, in the above cases, it was shown that phenomena of the first two classes are not at all connected but occur separately, and (apart from *Santonine* intoxication) are not wholly confined to the violet colour, yet there was no absolute decision from the experiments as yet communicated respecting this class of phenomena, viz., the hallucinations. It was but seldom, and that in the very last cases that they were observed. *Query*, was this because *at first* they were simply overlooked, perhaps entirely owing to the fact that closing the eyes for a longer time is often essential to the observation? If so, how easily might one imagine a connection with the violet-sight!

In order to decide the point I succeeded (partly during the unfavorable circumstances of a journey) in instituting some experiments, the publication of which has hitherto been prevented by private affairs.

[He then describes the apparatus he employed; but as the description is full of optical technicalities, which would be unintelligible to the uninitiated, we omit it.]

LII. Dr. B— (Prague, October 16th, 1860) took at 2 p.m. half a scruple of *Natr. santon.* after lunching at 12. Up to 4 no effect whatever took place, except a falling of the pulse to 56. Then, unfortunately, the observation was interrupted. At 6.30 yellow-sight is said to have commenced and to have been especially marked at night after beer (about 12). The failure is explained by his having taken food previously, and by his insensibility to tobacco, beer, and opium smoking.

LIII. Doctor P— (Vienna, November 11th, 1860) took, in gloomy weather, at 8 a.m. the same quantity. Though at 9.16 everything was seen through a greenish-yellow haze, and even at 9.21 black coffee seemed to be of a transient violet, yet neither then nor afterwards was any alteration observed in the darkened field of vision, nor any change in the taste. In two hours the yellow-sight, which was not very strong, disappeared, but returned transiently once when eating. So the action was very feeble, perhaps from the habitual use of *Nicotine* (tobacco) and *Alcohol*.

LIV. Dr. H— (Vienna, November 11th, 1860) took half a scruple of *Santonic acid,* fasting, at 8.38 a.m. At 9.15 the dark field of vision appeared blue within and bordered with a red circle; which appearance continued. At 9.24 the whole field passed from red through violet to blue; then green balls made their appearance in it, and specks, partly red partly yellow, moving very rapidly on the blue ground. This appearance continued of the same kind, and must have been very intense; it was not till 10.5 that the movement of the balls became slower. No large red spot ever appeared in the field of vision. At 10.30 no change; at 11 a fainter impression. Not the least trace of violet-sight; yellow-sight, however, did decidedly occur, but abated much at 11.

LV. Dr. M— (Vienna, November 15th, 1860), took fifteen grains of *Natr. santon.,* fasting, at 10.29. At 10.36 the darkened field of vision appeared after some time lilac, during which time, however, *unknown* black objects still appeared black. As in general in his case not the least indication of violet sight occurred. At 10.47 a dizzy sensation commenced. At 11 he took colourless, bright surfaces in the instrument for "green." Nausea came on and increased after eating (with wine) even to vomiturition (without throwing up), and to "dull throbbing" pains, "worse on stooping." A bitter taste of water, and an indescribable smell was particularly noticed. Appetite unimpaired. These phenomena were partly attributable to a chronic gastric catarrh which had betrayed itself by eructation and heartburn for half a year.

LVI. Dr. M— (Vienna, November 15th, 1860). At 9.20 a.m. took twenty grains of pure *Santonic acid,* fasting at 9.25. No subjective phenomena in the dark field of vision; always on opening the eyelids a transient yellow gleam. At 9.30 the same. At 9.45, after some time the field appeared blue, with dark blue trailing clouds, which soon disappeared. At 10.30 no subjective phenomena at all; only once he named a black card at a distance "violet." Nor was there the slightest indication of violet-sight. On the contrary, yellow-sight was exhibited, evidently, even in the light chamber. About one o'clock the narcotism had quite passed off. Nausea, headache, and other phenomena, had not then appeared.

LVII. Dr. S— (Vienna, November 25, 1860) took ten grains of *Natr. santon.* at 10 a.m. At 10.32 his dark field of vision became coloured pure violet, without any movement in it; this disappeared of itself at 10.34½ (black objects did *not* appear violet). At 10.45, and in continuance to 12.40, he plainly saw four intervals in the trellis (*gitter*) spectrum of a stearine light, and neither blue nor violet appeared in the sequence of colours, even when he was expressly questioned, though some days after he saw it plainly, and only observed three intervals (as I did with the stearine light). On darkening the room again from 11.5 to 11.8 nothing occurred. At 11.28 he took three disks which were dark violet, dark green, and black to be all alike, and dark blue, when they were held at such an angle as not to reflect light, because at the distance of four to six feet he did not see them at all. The fields with which the violet-sight appear the same always remained blue and yellow; also nowhere was violet to be observed on shaded objects neither then nor later (at one). It also corresponded to pure yellow-sight without violet sight, inasmuch as, after the crystal was removed when the images were unequally lighted, he pronounced the one to be "dull," as when but little light passed through; and the other to be yellow (12.30). On darkening the field of vision, then, the whole field appeared of one colour, and motionless "violet passing into black," but very faint. He used always to call the dark-green disk "green;" once he still called the two others both "blue;" but once, also, he called the black one "black." Then (at 1) he once saw the intervals in the trellis spectrum, and also saw the light itself violet, which, however, passed off the next moment, whilst the whole set of colours were by no means constant. Thus we see here, in a third instance, though only lasting in each case for a moment, that the narcosis proceeded to violet-sight.

LVIII. Miss A—, October 19th, 1862, took half a scruple *Natr. santon.* at 12.10. Half an hour before she had eaten a pear, and had breakfasted as usual. About forty minutes after this yellow sight commenced, with an inconsiderable alteration of taste and smell. After some time the hallucination occurred so completely when she covered her eyes with her hands, that the whole field of vision appeared uniformly pale violet, then red, then bluish, and, lastly, dark violet; so it remained then, and afterwards, when her eyes were again covered it regularly returned, only with this difference, that the field looked sometimes deeper, sometimes paler violet, and seemed darker towards the circumference. On opening the eyes the yellow sight was particularly strong, and on shaded spots the violet sight was equally marked.

November 7th, 1862. Miss A— took six grains of *Santonate of soda*, fasting, at 8.23 a.m. During the first half hour not the least effect was perceptible. At 8.58, on covering her eyes as usual, she saw bluish-grey streaks in the dark field; after a longer period, a lilac patch; all then vanished, and no change was produced by covering the eyes.

During an experiment with the instrument, a dark yellow was pronounced to be white, and its complementary, blue (at 9.5). Then a blue gleam was noticed on my hand.

The fields, however, were only similar, not quite identical; the anterior one especially varied much.

As yellow sight was found to be very strong at the same time (9.8), the field of vision was at once darkened. After closing the eyes for a long time, it looked quite of a reddish violet, without movement, yet with varying intensity. Then (at 9.11) the colour of the field became weaker, but the variation of colour stronger, till at last (9.12) the colour disappeared entirely, and never appeared any more, though the eyes were kept blind-folded from 9.8 to 9.14½.

At 9.49 yellow-sight and violet-sight were clearly present, but no hallucinations. Neither was any strange taste perceptible. Miss A— was very sick, with vomiturition, but this was put to flight by bread and milk, and a cup of coffee.

After breakfast the yellow-sight excited only in a slight degree. Although the violet-sight clearly betrayed itself by "lilac patches," yet from 10.3 nothing was noticed in the darkened field.

At 10.47, immediately after this, a flow of water in the mouth induced vomiting once with alleviation. The yellow-sight seemed fainter, a trace of lilac-sight still present.

After the vomit there continued till midday a slight peculiar taste, not to be distinguished from a peculiar smell. Pulse 78; cheeks reddened, perhaps from the constant movement induced by the experiment. Yellow-sight trifling, few lilac patches.

At 1.30 the taste and smell still continued, and from then till night; and even increased with return of nausea before supper.

To show, however, that even with the instrument* alone we can not only succeed, but even gain essential advantage in practice, I may here insert the following case:

A woman was lately sent to Bethany for our "reception" who was suffering for the second week from gastric derangement (pressure in the pit of the stomach, with distension and tenderness; loaded tongue, nausea, loss of appetite, &c.), and latterly with the addition of pains in the head and difficulty of vision. At the first glance nothing like injection of the conjunctiva could be perceived; the pupils were neither dilated nor contracted, but reacted visibly, and yet she complained of a difficulty of vision, without being able to define it. By chance the instrument was standing on the window. A single glance showed that with the crystal she never saw true colours, but without it she did. From this the diagnosis was obvious. *She was suffering from atropine intoxication;* the disturbance of vision consisted, probably, with some aggravated modification, in colour-blindness. In fact the eye-speculum indicated nothing whatever. I asked for the prescriptions of four or five physicians who had treated her, and I just asked her if she had any left of the following medicine. *Extr. bellad.*, gr. iij; *Ol. amygdal.*, ℥iij, d. s.; 15 drops three times a day. "Yes, about 30 drops," was the reply. A saturation and diet, with abstinence from all medicine, so completely cured her in a few days of the stomach and eye complaints that she came on purpose to express her gratitude.

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* The instrument alluded to at p. 217.

Such intoxication is very frequent. I know of no medicine towards which such various degrees of susceptibility exist. They generally, but not always, betray themselves by mydriasis.

A patient with the stone, for whom, before he could be operated upon I prescribed *Bell.* (gr. ij, *Extr. bell.* in ʒij *Aq. amygd. amar.*, 10 drops every two hours) experienced similar phenomena after the first 50 drops; but these consisted not in disturbance of vision but in muscular twitchings, and these always served him as a signal, as the spasms of the bladder always disappeared. The following proves the accuracy of the diagnosis.

Previously to this (*e.g.* Gräfe's *Archiv,* vii, 2, 75) I called the partial colour-blindness "a disease of the retina," for the determination of which I had employed the trellis spectrum. I concluded this from the telling experiment, as we find it in the first stage of *Santonine* intoxication. The violet end of the spectrum is invisible, and then homogeneous yellow light viewed through homogeneous yellow glass, looks violet. When we are able to perceive a violet colour, but, from the yellow-sight (of violet-blindness) are not sensible to light that otherwise seems violet, we must refer the affected portion of the organ of sense to the exterior extremity of the apparatus of the optic nerve, since the disorder has been proved to be a nervous one.* We refer it to the retina so much the more because on the one hand this disorder shows itself to be quite dependent on the admission of light, and on the other hand in some of our strong poisonings great hyperæmia of the retina was clearly exhibited by the aid of the speculum. Veins as well as arteries (but especially the latter) were evidently disturbed; so that the two seemed alike a result which is so much the more certain, because the rabbit always employed for that purpose had been diligently examined with the ophthalmoscope for fourteen days, so that we could accurately draw the course of its retinal blood-vessels out of our head. Thus we arrived at the conviction that partial colour-blindness is caused by the change of pressure to which the retina is exposed from the increased contents of the blood-vessels. If this be correct, then first it must occasionally be found in one of the eyes alone; and, next, it would also be induced by other changes of pressure in the vascular system of the retina. I have succeeded in demonstrating each of these facts.

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* That the cause was not in the dioptric apparatus will appear by comparing Virchow's *Archiv,* vol. xviii, p. 31. There is adequate proof that the yellow-sight is always the first symptom, yet even in fatal cases the papillæ of the optic nerve always appeared white, never yellow, when observed with the eye-speculum.

As to the one-sided colour-blindness, Dr. Zöllner is a striking proof of it, who, though the subject of a remarkable congenital hyperplasia of the right side of the face (including the fatty tissue as well as the osseous portion), and also having pupils of unequal size, yet sees spectra of different lengths with both eyes! In a previous experiment with *Santonate of soda* (L) I communicated the very different results for his two eyes obtained both from the experiment with the trellis-spectrum and with the colorometer. A similar confusion of colour was observed in Mr. E., the gymnasiast, whom I had occasion to examine on account of Daltonism, in one eye only, without any outward perceptible difference.

As to the dependence of the sensation of colour upon pressure on the vessels of the retina, what was more suitable for a crucial experiment than the medicines which we know to be removed from the suspicion of intra-ocular pressure, and especially *Atropine?* A series of experiments which I instituted with *Atropine* side by side with the *Santonine* experiments prove this.

[Here follows a detailed account of these experiments, which we have not space for, so we only give Dr. Rose's summary of them.]

Although at first a manifest truncation of the spectrum towards the blue was perceptible, yet, subsequently, such a variation took place between the terms of equation of the three eyes, that one is led irresistibly to the conclusion that the retina suffers not directly from the poison, but only secondarily, through influences which nature takes care to compensate. Along with the removal of the intra-ocular pressure, the pressure in the vessels of the retina must be altered, and must oscillate till the two are equalised; or (when, as in this case, the pressure in the eye itself only varies transiently) till the original variations of pressure and those induced in the retina have come to equilibrium.

This experiment also teaches, besides establishing the above results, that by the external use of *Atropine* on one eye the other eye suffers in its power of distinguishing colour; just as by dropping it into one eye we can reduce the iris of the opposite eye to zero. Nay, in case of impediments to the enlargement of the pupil, *e. g.* adhesion to the capsule of the crystalline lens, it may at last come to pass that, whilst the diseased eye is little affected by the dropping in of *Atropine,* the pupil that is not treated with it is enormously enlarged. Without the least appearance of general intoxication (poisoning) the patient may grow so blind *pro tem.*, through colour blindness, and induced modified paralysis, that, if he only saw clearly with the healthy eye previously, he becomes bedridden, instead of being able to walk by himself, as previously.

These results were established by a series of experiments which I was enabled to try during opportunities afforded by *Atropine* treatment. Whilst residing at Vienna I heard Oppolzer speak of the vivifying effects of the internal use of *Atropine* in Epilepsy. Amongst the patients who asked my advice as dispensary patients (they did not receive patients with fits into the building) it was easy to find individuals apparently suitable. They took by Oppolzer's prescription *Atrop. sulph.* gr. i, *Spir. vin. rect.* gtt. d.; 5 drops per day fasting. The patients had to present themselves daily.

The majority of them (some withdrawing themselves from further observation, after the custom of dispensary patients, others manifesting a remission of the fits that was at the time very striking) almost always showed permanent phenomena of intoxication, betrayed by implication of the throat and eyes, and even obliging us to diminish the dose.

If these phenomena were exceptionally strong I often examined the individuals with the colorometer. In no case were the images alike, always, however, the indications of colour were diverse.

Thus, from these experiments one may conclude, respecting the effect of *Atropine* upon the sense of colour :—

First, That it is impossible to induce colour-confusion by the use of *Atropine* either externally or internally, for in no case does the colour-index furnish an identity* of four terms, nor does the colorometer give identity at all.

Secondly, That undoubtedly by the external application of *Atropine* to one eye the other becomes impaired in its apprehension of colour.

Respecting the kind of disturbance produced it appeared :

Thirdly, That partial colour-blindness may be induced by either the internal or external use of it.

Thus, in its internal use *Atropine* resembles in its effects a small dose of *Santonic acid,* if so small as to be incapable of causing colour-confusion as to *kind* of colour, nay hardly even in the *degree* of tint. The impressions made by colour are altered by *Atropine* as regards strength, exactly as they are by the different degree of solar light on different days; with which, as every one knows who has observed a spectrum, the length of the latter also often momentarily varies.

I may take this opportunity of touching upon an objection which might be made against me, as I am fortunately able to refute it. A part of the experiments took place at the time of the partial eclipse of the sun in 1860. Thus, some individuals under the santonic intoxication, were reminded of the degree of illumination during the eclipse. How far the comparison was feasible may be learnt from the following comparisons, procured under precisely the same circumstances as those by myself and Miss A—, constantly with the routine then practised, as long as it was possible to do so. We could thus conclude positively, from the kind of answers, that identity of four terms could not possibly be established.

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* For the needful and sufficient evidence of colour-confusion see Virchow's *Archiv*, vol. xx, pages 266, 273, 279.

July 18 we found the following:

XXI.—(At 3.45) 33 yellow + 2⅔ green + 64⅓ blue = 38 white + 62 black.
XXII.—(At 4.3) 46 red + 28⅔ green + 24⅓ blue = 24 white + 76 black.

The same day at noon Dr. Lucæ had previously determined the following identity:

XXIII.—34⅔ yellow + 2⅔ green + 62⅔ blue = 40 white + 60 black.

Thus the eclipse, exactly like *Atropine*, produces a variable impression of colours, after the manner of the yellow-sight in *Santonine* intoxication. Neither the one nor the other two can produce the phenomena of Daltonism, as a strong dose of *Santonine* does.

Similar variations of the intra-ocular pressure, and at the same time of the sense of colour, also take place temporarily in healthy subjects, when such variations depend on the direction of the sight and of the accommodation. Thus, in the very first experiments with *Santonic acid*, there was a striking increase of yellow-sight on awaking, or on leaving a dark room, because then the accommodation strengthens the effect. Also, physiologically, the contraction of the pupils on such occasions is accompanied by a slight alteration in the appearance of colours, as Dr. Zöllner has since shown by a simple experiment* elsewhere. If we continue to look at a strip of paper double, the colour of the two images varies, of course, according as we make the size of the two pupils unequal, either by shading one side, by atropine, or by looking sideways. By holding a small hole pierced through a card before the dilated eye, we can show that this distinction of colours does not depend on the unequal quantity of light admitted; nay, it is increased by this means, inasmuch as the pupil, when applied to the hole, dilates itself still more. On the contrary, it was found, by the experiment above described, that the action of *Atropine* corrects, for a time, the effects of the stronger illumination. This fact seems to me very natural. Every variation of the intra-ocular pressure either fills or empties secondarily the vessels of the retina,* just as it does the attenuated base of an ulcer in the cornea.

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* *On a new relation of the Retina to the movements of the Iris*, by F. Zöllner, Poggendorff's *Annalen d. Physik u. Chemie*, vol. iii, p. 481.

The function of the retina depends on its circulation, and the colour-blindness is the first symptom of disturbance in that function. That the nerves of the iris do not at all directly produce colour-blindness, Dr. Zöllner was taught by his own experiment with *Santonine* (L), where as little as ever was there any difference in the size of the pupils, or any disturbance of the accommodation, and yet yellow-sight regularly took place. Why accept two explanations of the same fact when one holds good for both cases, and is adequate to each ?†

Thus we were compelled to consider colour-blindness as an affection of the retina by the independence of the phenomena upon the dioptric apparatus and the admission of light; and also by the observed synchronism with the confusion of colours. Another evidence was the visible hyperæmia of the retina. And this view was further strengthened by the fact that actual instances of *one-sided* colour-blindness occurred, and that all variations of intra-ocular pressure produced secondarily corresponding degrees of slight colour-blindness.

On the contrary, if we consider Daltonism, or generally all cases of colour-confusion, the following statements lead us to infer no fault in either the peripheral or central portion of the nervous apparatus for vision, but an affection of the conducting portion, and that probably of the filaments of the optic nerve. The idea of its seat being central is excluded by its dependence on the admission of light, which never occurs in comparing colours having a central seat, to which class, as numerous post-mortem examinations testify, belong the hallucinations observed in cases of amaurosis of many years growth, with, *e.g.*, atrophy of the optic nerve from the bulb to the chiasma.

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* So much the more easily, since the retina has a vascular system of it own.

† Besides, the inference from the variations, when Dr. Zöllner dropped *Atropine* into his eye, might be attended with uncertainty, since the pathological conditions under which these variations so occurred are absolutely known to be unsatisfactory, and so much the more because, as above shown, the healthy eye always sympathised, yet not in a constant relation or direction.

The colour-confusion is also at once distinguished by its remarkable regularity from the versatile character of the hallucinations. Lastly, the true hallucinations are independent of the eyes; whereas, the colour-confusion, corresponding to the circumstances of a single eye, occurs unilaterally, as has been most strictly proved by me in an experiment with *Santonic acid* (L). If, on the other hand, it were an affection of the retina, it might be supposed that other influences, such as any variation in the intra-ocular pressure, would affect it: nothing of the kind has shown itself, nor has the like been attained by any kind of illumination whatever. But, above all, the synchronous violet-sight of santonic intoxication can only be explained on the hypothesis that though, during the change of undulations in the nervous movement of the retina, violet light is excluded, as to objective perception; yet, during a continuance of the different sorts of nervous movements, some of these, rendered abnormal by injury of the conducting medium, at last excite the same sensation as that very nervous movement which is ordinarily produced by the impact of violet light.

Now, every new theory of the act of vision must adapt itself to these previous conditions. Therefore, that of Dr. Young, which is still upheld, is (as I demonstrated years ago) untenable. Hence, it would not, I think, be very difficult to form a mechanical representation of the process in the act of vision, if one attached thereto the various kinds of movement of the molecules in the electric action attending it.

If, however, we return, after these digressions, to the hallucinations in santonic intoxication, and to the experiments already communicated, we next find that their commencement is completely independent of both the other kinds of optical illusions which are found along with them: viz. the yellow-sight and violet-sight.

This follows, first, from the incongruity of these phenomena in respect of time. For in most cases where special regard was had to this circumstance (LIV, LV, LVI, LVII,) the hallucinations appeared, when, in the whole course of the experiment, it never proceeded to violet-sight, though the case was precisely that in which hallucinations occurred in the greatest intensity (LIV). In the last case we actually find the hallucinations at a time when it had not yet at all proceeded to violet-sight; and before this last did commence they had disappeared. On the contrary, in all cases they are associated with yellow-sight, *i.e.*, violet-blindness; and, naturally, since yellow-sight is the surest consequence of taking *Santonic acid.* However, almost all the cases show that they have no causal connection, inasmuch as they generally occur only as the exception, and in the last cases (LII, LIII,) they were even frequently absent. In Case LVI, the yellow-sight already existed before it proceeded to hallucinations. In some cases, on the contrary (XL, L, LI, LVIII), all three phenomena concurred.

Next, as to their frequency, it should be mentioned that they were hardly observed in one-third of the cases. Nor does this depend on the person experimented on. Out of five experiments made on myself; I only once clearly noticed anything of this description; in the six with Miss A—, they were noticed twice only. Even taking into account the feeblest symptoms of them, they only occurred nine times out of thirty. Just as little were they due to the dose, or to the kind of preparation used. Precisely where the largest dose was taken, there occurred either none (X, XI, XLI, LVI,) or very few (LV). Accordingly, how very differently do the hallucinations conduct themselves from the other kinds of colour illusion! in these latter we see the yellow-sight occurring invariably, even after the weakest dose, and also never failing, however ill and feebly the doses acted in other respects. On the contrary, the violet-sight occurred in most cases in such a way that it might be said, if it occurred but nineteen times out of thirty, that this was merely because, in one-third of the cases, the action of the dose had from other circumstances turned out very feeble, or must have been insufficiently observed. In general the yellow-sight was always found as the most certain consequence of *Santonic acid;* whereas the violet-sight succeeded best according as the quantity or the circumstances favoured its action. Thus we may regard both as sure effects of the medicine. Both are dependent on its action; whereas the hallucinations are an uncertain effect, which is never constant even in the same individual.

Thus it follows, in my opinion, from the incongruity in point of time, and from the inconstant character of the phenomena, that there is no essential connection between the hallucinations and the colour-illusions, however closely they may seem to be connected at first sight. For if a violet-sighted person sees all colours more like violet in proportion as they are darker, then one would expect the field of vision to appear of the finest violet when totally darkened. And if we do darken it, the fact is that it does sometimes appear violet.

Does not everything lead us to consider the hallucinations as nothing else (which has been made an objection to my view)* than the natural consequence of the violet-sight? and is not the violet-sight explained by the fact that the spontaneous violet-field of view is so mixed up with all perceptions of colour that thereby during feeble impressions (from dark objects) there exists, to all appearance, a case of violet-sight? Is not that much more probable? And so much the more if, from the circumstance that during yellow-sight (*i.e.*, violet-blindness) the organ is insusceptible of violet light, we infer a tendency to supply the want of an external stimulus in some measure by subjective energy, as it is *then* that the violet sensation becomes forcibly predominant.

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* On another occasion I heard the view expressed by one with a still more superficial pretence to science, that in santonic intoxication all optical illusions depend upon the confusion of black and violet. Thus the darkened field was mistaken for violet, and the violet end of the spectrum for black. That this last is erroneous, I have been enabled (see *Archiv,* vol. xx, pp. 266—277) to prove indisputably. After some practice, we succeeded in finding the means, on the colorometer, of detecting any one who confuses colours. In every such individual, the grey line lies in the plane of the fundamental triangle, and thus must cut it in at least one point, if the black extremity lies in the triangle; he must have an equation of four terms between black and white on one side, and red and blue, or blue and green, or green and red on the other side. If no such equation hold good, then neither does the grey line lie in the plane, and it is impossible for that person to confuse colours *à la Dalton.* Now in Case XLIX we find that, six hours after the *Santonine,* the experiment turned out negative, and yellow-sight could still be clearly proved with the colorometer. Dr. Lucæ was not demonstrably violet-sighted (Case XLVIII) seven hours after the *Santonine,* and yet up to eight hours after, strongly yellow-sighted by measurement. At that time this proof had occurred in Case L for the third time; seven and a half hours after the dose, it was proved, with the colorometer, that Dr. Zöllner's left eye was no longer violet-sighted,

If it were actually so, then must the "hallucinations," (so named by me) and the violet-sight immediately follow every instance of yellow-sight.

Instead of this we saw above (see *Archiv*, vol. xix, p. 11, 3 and 6) that yellow-sight and violet-sight do not necessitate each other. Instead of this, we saw elsewhere (in Grafe's *Archiv für Ophthalmologie*, "Ueber stehende Farbentäuschungen," vol. vii, 2, p. 104) that partial colour-blindnesses, indicated by a spectrum shorter than usual, are sometimes congenital, either with or without colour-confusion (Daltonism); instead of this, I say, we saw just now that hallucinations only occur now and then, and either with or without violet sight; but that, on the whole, they are decidedly *rarer* than it. How little internal connexion there is between the two is best shown by the last case, which was especially observed with direct reference to this point (LIX). During yellow-sight we have the hallucinations at a time when, demonstrably, violet-sight is not present; and long afterwards, when the hallucinations have, demonstrably, long passed off, the violet-sight makes its first appearance.

Thus are objections of this class satisfactorily rebutted; yet let us go a little closer still into the different *kinds* of hallucinations. How is it? How does the case stand?

The darkened field of view was bound to appear violet to a violet sight, and so it did!

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and yet ocular demonstration, as well as examination on the spectrum, showed him to be yellow-sighted. In general, during santonic intoxication, there appeared, in contra-distinction to Daltonism, the tendency (Gräfe's *Archiv*, vol. vii, p. 94) to take colourless things for coloured, *and not vice versâ*.

To this we simply have to reply, first, that (as has long been proved to be a fact, in vol. ii, p. 532-4 of this *Archiv*, and has merely been since corroborated, not only in the experiments with *Santonine,* but in the case of natural violet seers, *i. e.* Daltonists) the partial colour-confusion, as well as colour-blindness, depend entirely on the admission of external light; in darkness the colour-confusion ceases.

And, then, what of this violet appearance of the darkened field of view? If it is to explain violet-sight, or be a consequence of it, it would be necessary to the explanation, first, that it were observable on every closing of the eyelids, and lasted while they continued shut; secondly, that all the field should invariably appear uniformly violet; and thirdly, that in general the two phenomena should go hand in hand. Experience does not establish any of these three conditions; it teaches that these phenomena are very variable, and that all that can be said is that, *on the whole,* violet predominates. The phenomenon hardly ever commences at once on closing the eyes; but constantly after waiting, and that often for a very long time. Thus, in one case (LVII), it was expected in vain for three minutes; in another, it was ascertained by a stop-watch that thirty-five seconds had passed before it appeared. Besides, if the eyelids are kept closed, it ceases of itself, undoubtedly, at least so it was in every case where that question was attended to. Thus, in Case LVII, it disappeared spontaneously in two and a half minutes; in LVIII in one minute and twenty-five seconds after closing the eyes; in LIX, in four minutes (in which case its return was watched for in vain two minutes and a half longer.

In the next place, as to the uniform steadiness of the violet field, this is manifested just in the fewest cases, viz. only L, LV, LVII. In two thirds of the cases, and those the very ones where the phenomena were strongest and most carefully observed, it appeared that either the violet was not uniform and equable, or that other colours appeared to come, often in gay alternation; or, lastly, that the phenomenon varied in the same individual. Then, in Case L, the field always appeared only *transiently* violet. In LVI transient dark blue clouds passed into the blue field. In LVIII and LIX the violet field is darker towards the edges, and its intensity variable, increasing up to a certain point, and then disappearing. At first, however, the hallucinations were quite different in these two cases. In the first, there was a transition from violet to red; then bluish and dark violet. In the second, greyish-blue streaks came in at first, then a lilac spot, and only at last, after further repetition, was the whole field reddish-violet. In Case LI there was first a bright red spot, then its periphery became blue, but moving, like a cluster of worms.

Let us now come to the most striking case, in which all the phenomena failed, except a slight yellow-sight, and yet the hallucinations set in almost to a distracting degree, and with extra brilliancy of light, and quite a different alternation of images occurred. At first the field was steady blue, but only in the middle, with a red circumference. Afterwards, however, the field passed over from red into violet and blue, and with that a vivid and long *melée* of green balls, with red and yellow specks, like dust, commenced on this blue ground. This appearance lasted (although the bustling movement was somewhat abated in three quarters of an hour) very nearly two hours, in short, as long as the observation could be carried on, at which time the feeble yellow-sight was much diminished.

It is doubtful whether what I myself once remarked (XL), which is quite different, ought to be set down generally in the category of these phenomena, viz., at some distance around the light in a room moderately illumined, a violet-brown corona of rays, which disturbed the sight, so as to prevent all further observation, independently of the other affections in this case; so much the more doubtful, I say, inasmuch as the phenomenon only occurred with open eyes; and in darkness, neither in these nor in my other experiments, did the least sign of such hallucination occur, though I often looked for it.

Lastly, as to the hallucinations and violet-sight going hand in hand. Both occur, as above shown, separately as well as together; when both are combined, the hallucinations mostly pass off first, since they generally belong to the earliest, and (as a rule) the most transient phenomena of the intoxication. Precise verifications as to time were made in two cases only. In Case L the hallucinations were only to be seen from nine to fifteen minutes after the dose, whilst the concurrent violet-sight lasted twelve hours. In Case LIX, both commenced nearly at the same instant, viz. thirty-five minutes after the dose; the violet-sight lasted three hours, the hallucinations only one and a quarter, although the field was repeatedly darkened for six minutes at a time. In eight cases they began in twenty-four minutes on the average; once, however, in seven minutes; at the latest in three quarters of an hour. In no case could they be noticed more than three hours after the dose. In three cases where exact verification took place, L lasted six minutes, LVI and LIX three quarters of an hour.

Accordingly one must consider the phenomena observed under santonic intoxication with closed eyes to be entirely independent of the other perturbations of vision. They are distinguished from them by the infrequency and irregularity of their occurrence, and by their great disproportion in kind. What they have in common can be comprehended in brief compass.

Sometimes optical illusions set in which seem independent of the extent of the narcosis and of the individuality, without requiring the excitement of the eye by outward light. Constantly some time elapses in darkness before the phenomenon commences, and it is indefinite in the duration of its appearance during the intoxication, as well as in the time of its commencement in the dark, not only in different persons, but the same person in different stages, since we meet with all transition states, from the simple amorphous colouring of the field up to the *entrée* of moving variegated appearances of definite shape. The violet, however, plays a principal part in the colouring of them all.

So I might, in accordance with this, speak of the phenomena observed under santonic intoxication with closed eyes as optical hallucinations, as specific effects of *Santonine* on the visual centre, in accordance with the other phenomena which *Santonine* produces in the brain.

For visual hallucinations are not the only ones which take place in this intoxication. There occur as truly, though less frequently, hallucinations of the sense of touch, nay, even of the taste and smell. I especially remember the unpleasant sensations which I had to endure, after a strong dose, in a perfectly quiet posture, and also on the uncovered portions of my extremities, sensations which I cannot describe nor compare to any thing else. I could not call it "formication," for the sensation was a very gentle and continuous one; neither had it any remote resemblance to the pricking and numbness in the nerve after pressure on the elbow. This sensation is proved to be an hallucination, not only by its coming on when I was almost perfectly still, but by its complete disappearance even when very tiresome, as soon as I was absorbed in reading, just as Spinoza's "visions of Blackamoors" vanished when he took up a book, but returned when he had nothing to occupy his attention (1663. Epist. xxx Petro Balling. ii, p. 216). Or, as Nikolai, when he had just seen his acquaintances in the personages of his visions, the latter at once vanished if he used any exertion of his will to see the former again.

Others have mentioned peculiar sensations in the teeth, warmth in the hands, &c.

The other hallucinations I have hardly experienced clearly myself, while they have forced the attention of others by their intensity. In such cases it was quite possible, as in the case of sight, to distinguish hallucinations from illusions by keeping strictly to Esquirol's definition, which seems to me to have been too little regarded in the problem of localising affections of the nervous system, though the primary seat of disease is so important to the treatment. That man experiences hallucinations who is convinced of a sensation when the organ of sense is not excited objectively. In such cases it is the brain that suffers, as numerous cases teach us, where in cases of strong hallucinations a post-mortem has detected phthisis bulbi even to the chiasma. [Esquirol, *Des Maladies Mentales*, Paris, Ballière, 1838, I. p. 195. Griesinger quotes more cases, *Pathologie der psy-*

*chischen Krankheiten,* p. 88.] An "illusion" is the reaction of the brain upon external impressions which are misapprehended by the organs of sense. Illusions, when they occur *pures et simples,* are dependant upon those organs, as we learn from the manner in which they were cured in the well-known cases of Reil, Esquirol and others. In both cases optical illusions were at the root of the mental maladies, and both were cured by bandaging the eyes.* In hallucinations we find the very opposite. Here very often the independent action of the brain is disguised by the external excitement of the senses; but, as soon as the organ becomes passive, the hallucination commences. Dagonet observes, "The influence of the absence of light upon hallucinations is sometimes so manifest that lunatics see ghosts and false images by daylight if they drop their eyelids ever so little; and many subjects can get rid of their visions if they take the precaution of keeping out of darkness." Dagonet, *Traité élémentaire des maladies mentales,* Strasbourg, 1862, viii, p. 106. Baillarger speaks to the same effect.)

Thus, also, the hallucinations of lunatics often exhibit themselves first on going to sleep.

Illusions, also, are hindred, whilst hallucinations are called forth by excluding the excitement of the senses. Mental diseases produced by illusions are cured by *quieting* the senses: those consisting in hallucination by *exciting* them. Esquirol says "I have seen highly excited, very restless patients of this class become very calm by diffusing perfumes through their apartments" (Ibid., p. 220), in a description of olfactory hallucinations.

The optical phenomena in *Santonic* intoxication present a fine example of the fundamental difference between the two. The visions were almost always observed with closed eyes only; whilst the partial colour-blindness and colour-confusion (Daltonism) were exhibited as mere illusions, always depending on the admission of light.

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* The cases are given in Reil's *Rhapsodien über die psychische Kurmethode,* Halle, 1818, 8, and Esquirol, loc. cit., p. 219; a third case in *Bulletin de Thérapeutique,* 1842. If any one thinks these cures marvellous, I ask him what else we do in case of broken bones? We remove by a bandage the cause of continual irritation, and the rest goes on spontaneously.

In accordance with this, then, we will class the cases where an abnormal taste or smell occurred from actual excitement of those two senses, along with illusions produced by partial colour-blindness. And we will consider him to be the subject of hallucinations who is conscious of subjective sensations without any objective excitement.

Thus, we find, on the one hand, *illusions* of taste where clean water tasted intensely bitter (L, LV). The proof that this was not the after taste of some actual bitter is easily drawn from the fact that, after taking a preparation in solution, the mouth was carefully rinsed; and that, during the first half hour, the illusion, notwithstanding the experiment, was not found to exist at all. On the other hand, we find also *hallucinations* of taste, inasmuch as, under the very same circumstances, without any movement in the mouth, a taste often occurred, *e. g.*, Case XLIX. Here a soluble preparation was employed, the mouth was carefully rinsed after taking it, and during the first hour, neither when the mouth was empty nor when eating was a strange taste perceived. It first occurred later in the day, without eructation (which surely, the salt being so soluble, would have had no influence either) and *malgré* dinner, continued pretty strong for a whole hour.

So also we find olfactory hallucinations in a very marked degree often for hours together (XXXV, XXXVII, L, LI, LV, LVIII, LIX); and these were characterised by the fact that a smell commenced whilst all external circumstances were unaltered; and no strange smell was noticed either by others *or by the persons themselves during the first hours of narcosis.* Olfactory *illusions* have not been proved with certainty.

In general, olfactory hallucinations are oftener exhibited than gustatory ones. In some cases it was impossible for the patient to separate the two sensations, as they came on and went off at the same time. But that both actually took place is shown by those cases where only hallucinations of smell occurred (XXXVII, XXXV, LI); whilst in one case (XLIX) only a strange taste was mentioned. Otherwise both these hallucinations set in later than the visual phenomena; on the average an hour after the dose, and lasted longer, viz. as a rule, six hours at least.

Lastly, I compare with the hallucinations the nausea that ordinarily came on; which, in a high degree of narcosis, may proceed to repeated voluntary vomiting. As in the case of the senses, I believe we may distinguish two kinds of vomiting in persons who generally vomit with difficulty, viz., according as the stimulus affects the stomach or the brain. The one comes on according to the individuality, with various long and severe warnings, under the usual appearances in the *primæ viæ* (flow of saliva, eructation, pressure on the gastric region, &c.), as in vomiting from gastric catarrh, or from the irritation of emetic tartar. Here the vomiting is always conducted differently. Without any warning it commenced with me quite suddenly, and without the slightest pain; whereas the other brain symptoms always attain their maximum at *the same time.* This kind of brain-sickness is met with on other occasions; for instance, during mental over-exertion, advanced narcosis from opium, &c. (*Archiv f. pathol. anat.*, bd. xxviii, hft. 1 and 2).

Corresponding with this brain-sickness there was also now and then a retardation of the pulse; generally unimportant, though in many cases it could not be overlooked (XXVII, XXVI, XI, XXVII, LII).

Let me now, in conclusion, be permitted to revert to the results of my former experiments with fatal doses of *Santonate of soda*, which have been published some years, and since then corroborated by experiments on various sides. It then turned out that if one could succeed, by chemical combinations, in getting larger quantities of *Santonic acid* absorbed at once, it killed by continued spasms. Even then I observed some cases in which these tetanic fits were confined to the nerves of the cerebrum; and, before the spinal cord was implicated, the narcosis passed off (*e.g.* Case XXVII). In all the poisoning cases that did not run their course too rapidly, every one may convince himself of the truth of my assertion, that at first spasms of the cerebral nerves alone occur, *i. e.* in muscles of the eye, ears, nose, nape, &c., and not till long after do they extend over the body.

From this I am justified in concluding that *Santonic acid*, even in the smallest doses, acts specifically on the *retina* and the *spinal chord.*

In medium doses the optic nerve and par vagum suffer constantly; at times, also, individual nervous centres in the brain. It will be borne in mind that I mean the centres of the five senses, *with the remarkable exception of the hearing.**

It cannot prove fatal in its pure state to rabbits and frogs, because it is for the most part excreted in an undigested state, and, therefore, produces hardly any remarkable phenomena of any kind. Strong doses of soluble *Santonate of soda* are fatal, because constantly recurring spasms, first of the cerebral and then of the spinal nerves, always supervene upon the other symptoms.

From this one may see what the assertion is worth that *Santonic acid* in medium doses causes transient mental diseases. I would not have touched on this point, for I consider it settled by my first experiments, had not an

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* Out of thirty human cases, there were reported—

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| Yellow-sight in all | 30 |
| Violet-sight in | 19 |
| Nausea and vomiting | 14 |
| Dizzy feelings, lassitude, prostration | 9 |
| Visions | 8 |
| Hallucinations of smell | 6 |
| „ of taste | 5 |
| Abnormal feelings and pains in the head | 8 |
| Lowering of the pulse | 2 |

Beside these (constant or uncertain) effects, there occurred six times individual casualties (rumbling in bowels, eructation, tears). These statistics are not quite to be depended on, because at first all the symptoms were not yet known, and therefore many may have been overlooked, and then in the special study of some one particular, other slighter ones might be neglected. Amblyopia, paralysis of the iris, mental aberration, jaundice, hæmorrhage *never* occurred. The commencement of menstruation in a girl of ten (a case of Dr. Bergius) may (like the bloody stools which attendant sisters or mothers have shown me) fall under the head of urine decomposed, alkaline, and therefore highly coloured; but *containing no blood-corpuscles.*

authority in the medicinal department since published experiments similar to mine, with the remark that, *with him and his pupils, Santonine* always causes "incoherence in thinking." In the name of science I regret that these observations are not given in greater detail, in order that we might know how to estimate them. Unless this strange effect be an idiosyncrasy, the loss is incalculable. Imagine a drug which, without displaying any other violent action, produces, in some people at least, insanity!

However, before entering upon the subject, I may be permitted to define the limits of the term insanity.

All mental diseases, in the widest sense of the term, fall under three large classes, according as the seat of original disturbance is to be sought in the central nervous ganglia, in the hemispheres exclusively, or in both.

In the first place there may be persons, though they observe quite well, whose thoughts are still incoherent. Then we have to consider the true mental diseases in the narrower sense of the term, connected with diseases of the general strength. Thus, I remember a fine case of acute primary imbecility, caused by an attempted strangulation, and cured in a few weeks (communicated by Griesinger).*

Other patients, however, make false observations; whether it be that they receive sensations of themselves without any external stimulus (hallucination), or that their organs receive the impressions in an irregular way (illusion), and do not doubt their delirious fancies, which turn out variously according to their individual power, talent or education as well as their predominant emotions. This case of primary delirium alone interests us here.

Perhaps we may add, also, the progressive muscular weakness; if it be, as Baillarger says, really primary in the paralytic imbecility of general paralysis.

There is generally a third case, a synchronous affection of the apprehension, as well as the judgment. This, however, would only be the combination of two diseases, just as a syphilitic patient may have a gonorrhœa; or, the advance of the disease from place to place, as a croupose inflammation may advance from the throat through the trachea to the lungs; so in our case there may be an advance from the base of the brain to the cortical matter.

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* From Meding in Siebenhaar, *Magazin für Staatsarzneikunde*, i, 1842, abgedruckt in Griesinger, *Path. u. Ther. d. psychischen Krankheiten*, 325.

As for the second case, one must separate these deliriums of the senses strictly from mental disease proper; although the great bulk of mankind consider a man mad who, in consequence of a false perception, perpetrates the strangest acts and asserts the craziest things. One understands him as soon as one is able to put oneself in his place as to his sensations. For this, indeed, one needs the genius of an Esquirol to discover now and then in the tangle of ideas the *red thread* of the hallucination that is at the bottom of it all. The question whether the patient himself can get rid of his illusion, seems to me unimportant for the diagnosis, though for the prognosis it may be ever so important; that just depends upon the accidental externals, culture, education, and memory, momentary reflection, &c., and is not an essential of the disease. The laity may consider such a patient mad if he cannot get rid of his impressions, because they do not understand him; whilst the physician may see nothing in all this but "hallucinations" and "illusions," *i. e.* mere affections of the organs of sense in the widest sense. No man will set down as madmen Goethe, Jean Paul, Nikolai, Pascal, Spinoza, Andral, and others, who were able to reflect upon their optical hallucinations; no more should we hold such an idea of those who, like Luther on the Wartburg, allow themselves to be torn away through their hallucinations to downright violence, and who are not at once or not at all able to juge of the unreality of their fantasies, because *the sensation is all one whether the nerve be excited from without or from the centre.* People only become mad when these false perceptions lead to conclusions that are not intelligible *on their own ground,* but are associated with false judgment, incoherence, and weakness of thought; and when the motives of their thoughts and acts are not simply reducible to the delirium of their senses.

In these experiments with *Santonine,* I believe I have striking proofs to offer that this self-deliverance from hallucinations, this surmounting of sensorial delirium is an accidental circumstance, independent of the local disorder of the particular sense and its nervous centre, inasmuch as they are a mere consequence of the surrounding circumstances. Naturally a high degree of education in the parties experimenting, with the transitory, limited, and simple character of the symptoms, are circumstances favorable to the detection of such delirium. But suppose it is easy for a *genius* to estimate at its true value a single optical hallucination, occurring only transiently, yet one with an uninformed and perhaps limited intelligence will not so easily right his course, nay, perhaps not at all, when, unawares to himself, perhaps all his senses at once get astray, and that for some time; or he may in consequence, get into passionate conflicts with the world around him. Is he, therefore, of unsound mind? Nay, may not even educated persons under a continuance of circumstances even less trying, get into the same difficulty?

In one of my early experiments, when I knew nothing beyond yellow-sight, my colleague went, when the narcotism seemed to have disappeared (*i. e. when he had got used to it*), to dine at a restaurant. The experiment was over, and forgotten; during lively conversation in a friendly circle, in comes the waiter with yellow egg soup. It smelt peculiar to *him*, and also looked *quite red.* Perfectly shocked, he sent the soup back as entirely spoilt. To the amusement of his friends he persisted obstinately in asseverations which to them were inexplicable. They came to words, and my hot-headed colleague left the good-for-nothing eating-house in a pet. No doubt the waiter thought he was " not all there." *Now* we know that in this delusion, the first symptoms of olfactory hallucination and violet sight were setting in, of which, then, no one as yet dreamt.

Is this, then, incoherence of thought? was he insane? Surely not. The whole scene was the logical consequence of a false perception, from which he could not at once free himself in consequence of passionate excitement. And yet he was well educated, might have remembered that he had taken *Santonine,* and he had just been studying the consequent ocular deceptions, so that he *might* have come to the conclusion that this was an after-effect causing the strange smell subjectively, and so forth. In the case of the *un*educated, with *continued* delirium of *all* the senses, must it not be next to impossible to undeceive them?

Another time there were two sisters of the educated class who had taken *Santonine one after the other,* when some visitors came in during their experiment; and the conversation turned casually upon a gentleman's coat, and led to a dispute. One said it was yellow, the other, a fine violet colour! The gentleman, whose coat was grey, and was not aware that one had made herself violet-sighted, the other violet-blind (or yellow-sighted), was astounded. They, too, in their discussion, had forgotten the cause, and could not, without the help of a third person, shake off the dominion of the illusion from their minds. No one who knew the grounds of their belief could consider them insane, however strange the scene was to all who witnessed it.

As far as I know, no more cases like this have occurred; but these seemed to me sufficient to show that delusions of the senses, without false reasoning, do not constitute mental disease, even when the subjects of them cannot get rid of their impressions. Accordingly, *Santonine* merely produces hallucinations and illusions, not mental disease.

In conclusion, may it be permitted, from my personal experience, to express my own views of hallucination.

Baillarger, in his prize essay on the subject (*Mémoires de l'Academie Royale de Médicine,* tom. xii, Paris, 4, Baillière, p. 273—476, *Des Hallucinations,* p. 469), comes to the conclusion that the phenomenon is favoured by three conditions which seem necessary to produce them.

1. The involuntary employment of thought and imagination.
2. The removal of outward impressions.
3. The inward excitement of the organ of sense.

Accordingly, he concludes that they have their starting-point, not in the organs but in the intellect, and that they are developed from within outwards, and not, like the ordinary impressions of the senses, from without inwards. Finally he defines hallucinations as sensations which, independent of the internal excitement of the organs, have their starting-point in the involuntary activity of the thought and imagination.

Baillarger distinguishes from these (which he call psycho-sensorial hallucinations) the purely psychical kind, which he defines as sensations *exclusively intellectual.* These two have the same starting-point, and are assimilated improperly by the patient with sensations from which they differ in being produced without his third condition, viz., "the inward excitement of the organs of sense, *with which they have nothing to do.*

According to my experience a hallucination has as much to do with the "psyche" (intellect) as every other sensation, no more nor less. Baillarger's inference (p. 475, l. c.) that the *psychical* auditory hallucinations explain the enormous frequency of auditory hallucinations in general, by the ease with which they are produced, seems to me to prove that no such frequency exists, inasmuch as all the purely imaginative phenomena, which Baillarger designates as "psychical hallucinations," are reckoned in the "enormous" list. These are the assertions of real lunatics, who will have it that they hear the thoughts, or the language of thoughts, or the conversation of soul with soul, by inspiration or by mysterious, inward, *silent* voices. These are like the actions and scenes in "building castles in the air," or during unconscious talking to oneself, which one meets with in all men with habitual concentration of mind, and especially the learned; and in other waking dreams, which most people call reveries (nachdenken), all of which are purely mental phenomena like dreams * in general.

In dreams one living scene is developed after another without guidance or support, wandering at random through time and space. All is purely the work of fantasy. It is wrong to confound these with hallucinations which are actual involuntary sensations, not distinguishable from ordinary sensations either in degree or kind. Such fancies may follow every hallucination as accessories; this involuntary activity of thought and imagination will, if connected with an actual sensation, make an impression of it all the more lively. Fancy, however, is not only not required to produce hallucinations, but just as little essential to them as the patients getting rid of them is.

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* Which with most people, *e.g.*, the author, hardly ever appear with shining and coloured images.

The same exactly holds good respecting his second condition, viz., the removal of outward impressions, which is no more *essential* to hallucinations than to any other sensations. Every excitement of an organ of sense acts the more powerfully in proportion as its influence is more isolated, no matter whether it be external or internal, as every one knows by experience from the ordinary outward excitements. The very same holds good for hallucinations. The *Santonine* experiments show clearly how it is more difficult to observe a hallucination the greater the number of senses that take part in it.

Just so does it follow that, for the observation of inward hallucinations, as of the ordinary outward sensations collectively, the strongest one is perceived so much the better, the more it predominates. Thus, it is not characteristic, but just stands to reason that, when such an assemblage of different sensations occurs, one can notice one kind all the better if one can succeed in excluding the rest.

When a man shuts himself up from the outer world, he naturally perceives the inner world more easily. Thus, it is self-evident that the removal of external impressions is *favorable* to the observation of hallucinations. But though favorable by no means "necessary" to produce them; nor is the exclusion of any other activity of the senses "necessary." Take, for instance, my own visions (Exp. XL) with my eyes open. Dr. H— (Exp. LIV) described in detail his hallucinations of various colours by turns, which he observed with his hands before his closed eyes, listening all the time to my cross-examination, and giving the explanation of what he saw as if in a kaleidoscope.

The hallucinations are excitements of the nervous centres at the base of the brain, without any excitement of the external organs, or any primary excitement of the mind. A man may *have* hallucinations without *noticing* them, either from getting used to them, or having his mind diverted from them by employment in another direction. Yet he *has* them. Therefore we cannot say with Michéa that the mind is in this case acting a drama in which it is at once actor and spectator. If one cannot say so of every sensation, inasmuch as attention to it is always necessary, it does not hold good of hallucination either; a man overlooks *them,* too, unless he takes the trouble to attend to them, in cases where they are feeble, as every experiment teaches us; nay, the very circumstance that, abstracting attention from all external things, essentially facilitates the observation of hallucinations.

After this, setting my own views against Baillarger's, I protest against his idea of purely psychical hallucinations (which in general are confined to the ear), inasmuch as they are to be considered as mere fantasies.

Further, as to involuntary activity of thought and imagination, that again is not only not essential to the perception of hallucination, but not even favorable; it is quite a matter of indifference. It merely serves to point out the elements of the sensations that are felt inwardly, when it is allowed free course. Children and common people do the very same with the clouds and the outlines of rocks and hills, in which they will show you dwarfs and other prodigies. Just as the fancy of popular fables makes a figure of Death out of the lines on the moon, so the lunatic decks out the simple-coloured pictures which he perceives, abandoning himself to the unbridled roamings of his fancy ("φροντιδος πλανος"); whereas the sane observer, the more scientific he is, the more does he see (like Dr. H—) nothing but figures, and refrains from interpreting them, however well inclined to do so. For, however indistinctly an appearance is noticed, there exists in all of us an involuntary tendency to bring ourselves, either by fancy or reason to a clearer insight; and this instinct is perhaps strengthened by the mysterious charm of darkness.

If, then, there are sane men "of lively imagination to whom a few points and lines suffice in the twilight to fill up these elements, by dint of their busy plastic fancy, into visible figures,"—and Joh. Müller adduces examples of the kind from his own childhood on the walls of his father's house,—how much more will fancies present themselves in abundance to the insane where reason has lost the reins, especially when these points and lines get no limitation from the external world, as is the case with our hallucinations. In these "fantastic visual phenomena" we can, I am convinced, distinguish two different affections; the ocular vision proper, and the mere phantasm, which undoubtedly occurs quite as well without the former. It is my misfortune that, in my own experiments, the *Santonine* hardly produced visible hallucinations, but I have had a sort of intuitive notion of it from infancy. I had been reading Schwab's German legends very late one night, and had hardly gone to sleep, with my head all in a glow, when I awoke up. The lonely, dark room was faintly lit up around an apparition seen through the partly-open door decked in the variegated colours of the legendary world. There was no ground for doubting the reality of the figure, had I not felt and known I was in bed,—had not its body below the face been covered with bright blue and green fish-scales. I still know how I remained sleepless, and bathed in perspiration from terror. Never have I experienced the like since. On the contrary, when I remember even my dreams (seldom as I have any, in general), I hardly ever recollect having noticed anything coloured or bright, or, in general, any human being. As a rule, it is an affair about rumours which no one utters, about journeys without being able to analyse the landscapes before one as I could that figure; about occurrences without visible actors;—something like a drama which one only *reads*. And I can hardly believe that my fancy is not now active. Joh. Müller used from infancy to see involuntarily before he went to sleep (and also in the daytime, if he did but let his eyelids fall and abstracted his thoughts from everything) fantastic visual objects that were both brilliant and coloured.

Let us hear his own sketch (l. c., p. 23).

"I sit there for a long time with my eyes closed; all that I have a mind to picture to myself is a mere sketch, an outline drawn on a dark field of view; it does not shine, it does not move organically in the field of view; the sympathetic movement between the fantasies and the optic nerve commences at once; instantly the figures stand shining there without any suggestion of them by the imagination. The phenomenon is instantaneous; it is never first imagined, as represented, and then illumined. I can't see what I like, I can only submit to what I *must* see independent of any stimulus to the visual organ. This apparition, which I am able to see shining when wide awake, does as truly shine as the flash of light which I can elicit, as a subjective phenomenon, by pressing my eye." Convinced as J. Müller is that every one has at least *traces* of this phenomenon, yet I must explain that, ordinary as the process is with me, and faithful as I consider the description of its occurrence and the subsequent accounts, no coloured or bright image, or visible appearance ever yet occurred to me. However fertile my imagination may be, when I just let my eyelids fall and yield myself passively to its influence, yet it has never become plastic any more than in the world of dreams; so that I cannot possibly subscribe to the language of my honoured teacher, Goethe, in his *Elective Affinities:* "one may think of one's self as one likes, one always thinks one's self as seeing." Imagining certainly, but not perceiving. In my case it is not fantastic visual appearances, but merely a fantastic flight of thought; so that I am convinced that in fantastic visual appearances one must distinguish simple hallucinations (of the healthy or the insane) from the images and the products of fancy. One might place these last as "phantasms" in contrast with the hallucinations; excitement of the nervous centres, as compared with excitement of the psyche. Both are often combined, both occur separately.

Lastly, as regards the "removal of external impressions," which Baillarger regards as essential to the production of hallucinations, it is not at all so, though, at the same time it is favorable to them because all sensations, the hallucinations, as sensations arising from inner causes, make, exactly as the ordinary sensations do, a deeper impression in proportion as fewer stimuli from other quarters share the attention. On the contrary, in order to produce hallucinations it is indispensable that the nerves of sense be excited from internal causes; it is the central extremity of the nerve of sense in the brain that seems to be chiefly and probably alone excited. This is confirmed by not a few post-mortem examinations since Esquirol's days, of subjects who had suffered for years from hallucinations, and in whom were found, besides cataract, complete atrophy of the optic nerve, as far as the chiasma: so that there, to a certainty, all conducting by the organs of sense was prevented. This view is further supported by the complete independence of the hallucinations upon the organs of sense, as they are then most clearly exhibited when the organs are at rest. On the same ground all hallucinations of the sight are bilateral, so that men blind of one eye observe no difference as to the side on which they possess sight or not. Michéa, indeed, in his prize essay on hallucinations (*Mém. de l'Acad. Roy. de Méd.*, t. xii, 4, Paris, Baillière, p. 143), divides them into "sensorial" (symptomatic, consequent upon derangement of the peripheral fibres) and "encephalic" (essential), inasmuch as he *partly* approves of the view of Esquirol, who sought the origin in the brain, and also that of Plater, Sauvages, and Darwin, who would place it in the periphery of the nervous system. It were to be wished that he had furnished an instance of the occurrence of his "sensorial" hallucination. "We experience a hallucination when we excite a nerve of sense in its ramifications and in its course," says he, and by way of proving his theory refers to Joh. Müller's experiments. This has no meaning at all, according to the ordinary view (as given already by Joh. Müller) that hallucinations are sensations from internal causes, without any excitement by external objects. But Michéa entirely quits this ground in designating as hallucinations all sensations which are produced in the absence of their ordinary exciting cause, when the objects which they represent are not in a condition to produce any sort of impression on the organs of sense. According to this, the images produced by pressure, and all *muscæ volitantes,* would be hallucinations. But if all external stimuli must be excluded in order to constitute hallucinations, then this example falls to the ground of itself. He then proceeds, "Marcellus Donatus speaks of a person whose eyes were quite healthy, and who only observed fantastic phenomena with the left eye open, and the right closed. This fact suffices to prove that some hallucinations are under the immediate influence of the peripheral nervous system, at least, as regards their starting-point." If we look closer into the passage quoted we find, after the observation that a German prince passed with his urine a *large fly* which he had swallowed,* the following wild story:—"Laura —, after some days, fancied she saw a fiery globule which afterwards grew into a very large flame; she was from that time harassed with melancholic and epileptic symptoms at longer or shorter intervals, but always commencing as above; for first a light seemed to shine in her right eye, which was also often painful; and she used to say that if she looked with the left eye only, she only saw half a man, and so with other objects, as if they were cut in two."

A lady while suffering from venereal disease gets hallucinations of which it is not said that they were one-sided, and then a kind of epileptic spasm with an "aura," which proceeds from the diseased right eye (*qui et illi sæpiùs dolebat*) expresses itself by seeing flashes of light, and is coupled with hemiopia when the sound eye is used to see with. How this by no means amply or exactly reported fact of distant centuries ought by itself to satisfy anyone, or how it could satisfy Michéa, is difficult to conceive. The above appearances were probably hallucinations; that they were one-sided is not asserted. Then follow subjective flames of light in an organ expressly mentioned as diseased which consequently cannot be counted as hallucinations.

Quite otherwise it is with the careful reports of modern times. In two cases (as we learn from the Vienna Lunatic Asylum *) the uncommon observation was made that plastic hallucinations in the sense of sight are developed when the peripheral activity of that sense has ceased to exist. A pavior, for instance, who, ten years before, after damaging his eye with a splinter of stone, had phthisis bulbi still remaining, with little sensibility to light, saw with this eye the same phantoms of animals as with the sound eye. Further, a government clerk was seized, during the course of mania, with inflammation of the cornea which proceeded to phthisis bulbi. During this morbid process in the organ of sight, as well as after the ophthalmia was cured, the very same hallucinations appeared to the diseased and by the healthy eye; with both he saw men, animals, and landscapes, and described their form with equal precision.

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* Loc. cit., *Marcellus Donatus,* Buch. ii, cap. ix, p. 206, *De historiâ medicâ mirabili. Francofurti,* 1613.

Cases in which hallucinations of sight have existed for years in total blindness of both eyes are reported, not only by Marcellus Donatus (l. c., p. 199), but also with sufficient detail by Esquirol. Also, a case of violent altercation among women as deaf as posts, in consequence of hallucinations of hearing (Esquirol, *Des Maladies Mentales*, t. i, p. 196, Paris, 8, Baillière, 1838). Since then, others also (quoted in Griesinger, *Path. d. psych. Krankheiten*, s. 88).

So, then, pathological anatomy, as well as the independence of the phenomena of the organs of sense, points to a central source of hallucinations. Besides, supposing the peripheral nerve of sight were the only part affected, it is impossible that the hallucinations should appear in all colours, as we have seen that the confusion of colours always results from an affection of the nerve. Of necessity, then, must the hallucinations have an appearance something like the impression which real objects make on a Daltonist. Whoever has made this last condition clear to himself by the aid of the santonic narcotism ; whoever has even observed the hallucinations, with their often startling vividnesss of colour, will not cherish a doubt that the two impressions of colour are totally different. This also speaks against a peripheral origin. The idea that the cause of simple hallucinations (unaccompanied by pictures of fancy, or viewed apart from them) is to be sought in the central extremity of the nerves of sense, is upheld by the ever increasingly prominent fact that it is especially the convexity of the brain that is shown by post-mortem examination to be injured,* whilst those diseases of the brain which are essentially associated with delirium of the senses are accompanied by vomiting and retardation of the pulse; now these last are essential symptoms of basilar meningitis, as opposed to purely mental diseases.

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* *Aertzliche Berichte der Irren-Heil und Pflege-Anstalt zu Wien*, 1853—1856, Wien, 1858, gr. 8, 5, 45.

Thus, then, hallucinations are perceptions of the sense arising spontaneously, without any external stimulus, and have their source in the central extremities of the nerves of sense. So one may divide those phenomena of light which do not correspond with true impressions, into two great classes, according as outward impressions are their principal cause or not. The former, as "illusions" may be produced by any and every part of the organ of sense; just as colour-confusion by the optic nerve. To the latter class belong especially those pure phantasms which, by their mutability as to time and place, by the non-requirement of sensorial excitement, and again by the collusion of all the other senses, indicate their source in the involuntary activity of the mind itself (psyche). Among these, for the most part without aid, but also often in alliance with the will (as Cardanus says of his fantastic hallucinations when awake, "Video quæ volo"), and sometimes without, we find the hallucinations, which, by their apparent objectivity, their tranquillity, their splendour of colour, and their limitation to one of the five senses, indicate their origin in its central source; whilst by their complete independence of the organs of sense, they are distinguished from the subjective appearances which do spring from those organs.

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* Compare Griesinger, *Pathol. d. psych. Krankheiten,* s. 422, Stuttgart, 1861, 8.

# THE TRUE PLACE OF SPECIFICS IN PHARMACODYNAMICS.

By Dr. Drysdale.

The next class of agents from which it has been hoped to obtain the explanation of therapeutic specificity, is that of the restoratives or tonic-analeptics, viz., those agents which are supposed to cure disease by restoring to the blood or tissues certain elements known or supposed to be deficient. The line between these medicines and food has not been accurately drawn, but, practically, the term is applied to the inorganic constituent elements of the body, such as *Iron, Lime, Phosphorus, Sulphur*, &c. Medicines of this class are sometimes also called chemical food. What is food? According to Beclard—

> "Every substance identical with one of the principles of the blood, or capable of being transformed into one of those principles, by digestion, is a food."

Thus it appears that the ultimate elements of matter have no title to be considered as food, but they must first be incorporated by assimilation into certain principles of which the blood is composed. Now, the power of the human organism to assimilate extraneous matter is not unlimited, but, on the contrary, is confined within pretty narrow bounds, viz., to certain combinations of elements, or proximate principles furnished by the animal and vegetable kingdoms.

It may be granted that if any essential element of the body is not contained in an assimilable form in the food, disease must result, and that the disease may often be removed by supplying food of natural quantity and quality. Of this we have abundant examples in diseases caused by bad and insufficient food, such as scurvy, and numerous others. From this, however, it by no means follows, when in disease we can detect in any tissue a deficiency in one of the ultimate elements, that we have nothing to do but introduce that substance into the stomach in its merely chemical form of combination, and straightway it is absorbed into the blood, thence going directly to supply the deficiency, and thus curing the disease. This is the view that presents itself, at first sight, in the well-known therapeutic power of *Iron* in chlorosis, and as this medicine is considered the blood analeptic *par excellence,* we shall take it as the touchstone of the chemical food theory. In the way of this simple mode of explanation, there lie many difficulties. In the first place, chlorosis and anæmia seldom, or as far as I know, never arise from a special deficiency of the ferruginous element in food otherwise good and abundant. Hence other circumstances than the mere presence of *Iron* are necessary for the production of healthy blood; though it must be admitted, that on the correction of these, cure cannot take place without an adequate supply of *Iron* as pabulum. Can this, however, be effected by simply giving it medicinally? We do not know of any instance in which uncombined ultimate elements can be taken up so as to form a necessary ingredient in vitally organised matter, such as the blood corpuscles. If *Iron* in mere solution given on an empty stomach can be so assimilated, why cannot the other ultimate elements be so likewise? Why can we not feed upon charcoal and water, with the addition of *Nitrate of potash, Phosphate of lime,* and other matters in smaller proportion?

The blood corpuscles for which almost alone the *Iron* is destined are bodies of a complex nature and of purely vital origin.

Now, the *Iron* is almost entirely contained in the hæmatin of which it forms 7 per cent. The cruor or soluble matter of the red corpuscles consists of about 9 per cent. of hæmatin, and 91 per cent. of globulin. Thus *Iron* is only 7 per cent. of a constituent, which itself only makes 9 per cent. of the contents of the red corpuscles (154th of the whole). Why, then, is so much stress laid upon this constituent in the cure of chlorosis? Seeing that it is the deficient number of the red corpuscles as a whole, and not the defect of *Iron* in each particular corpuscle that constitutes the disease.

"Suppose," says Cl. Bernard, "what is probably the case, that there was about six grammes of *Iron* in the total mass of the blood" (Dumas makes it only two grammes and a half=38 grains), "and that in chlorosis three of those are lost to the blood. If all the *Iron* administered were absorbed, this quantity would soon be made up to the blood; but we know very well that it requires, at least, a month, and often very much longer to cure this disease, in spite of the great quantities of *Iron* which are given."

Brücke has shown by experiment that a rabbit to which *Iron* was given could take up with the blood about one grain a day, up to eight or ten grains, but after that it was all excreted within fifteen days. But it was not proved that it entered into the corpuscles, or caused new ones to be formed. It was probably present in the system merely as a foreign body, and eliminated in no long time.

"So the question remains as before; for in a chlorotic patient we have still the right to ask, whether the increase of the globules takes place at the expense of the *Iron* administered, or whether this *Iron* acting as a tonic, has put the organism into such a condition that it can now extract from the ordinary food what it requires for the reconstitution of the globules; and we have the more right to ask such a question in that we sometimes see chlorosis, and almost always anæmia cured without the help of chalybeates."—*Trousseau and Pidoux*, i, p. 14.

"In what wav does *Iron* relieve anæmia? Is it merely by supplying the ingredient in which the blood is deficient? I think not. Anæmia frequently occurs without any obvious cause; when there has been no deficiency of food, air, and light, and no profuse discharges. In such cases the disease cannot be ascribed to want of *Iron* in the system, but to some defect in the sanguification process; the *Iron* which is taken in with the food has not been properly applied in the manufacture of hæmatin or red blood-corpuscles.

"In such cases the chalybeate medicine relieves the anæmia by correcting the defect in the blood-making process, the seat and nature of which is at present unknown."—*Pereira*, i, p. 192.

"Is not chlorosis due simply to a fault of digestion? Cannot *Iron*, by the excitation which it produces, re-establish the disturbed stages of this function?" (Cl. Bernard.)

It thus appears that the actual deficiency of *Iron* is very small, and, therefore, its action as pabulum is inconsiderable, and only possible when it is in a state of peculiar organic combination. Its main therapeutic action is assigned by the above authors to its power as a tonic, and as an agent affecting in some unknown manner the blood formation. To elucidate these points we may study what its actions are on the healthy body: and first, its action as a tonic through the nervous system to which most authors are inclined to attribute the greater part of its curative action.

The grounds on which it is said to be a tonic in the ordinary works on materia medica are, that it produces an increased redness of the blood, and number of the red corpuscles, a general sense of increased muscular vigour, and ultimately a state of plethora, with heaviness of the head, and inaptitude for mental work. It is true these are by many attributed to its direct action on the blood, by increasing the quantity of *Iron* contained in it. But the more accurate experiments given in Löffler's Journal do not bear out this conclusion.* Provings were made of the *Acetate of Iron* on five persons whose blood was analysed both before and after the experiment. The following are the more important details in reference to this tonic and stimulating effect:

"S. P— took 6⅝ drachms *Liq. ferri acetat.* On the 9th day the sense of increased energy gave way, and a sense of relaxation in limbs came on, and the appetite began to fail, and on the 11th was below par, and continued so, along with the debility, till the end of the proving, and five days beyond, when they went off, and he got well and the pulse rose to its natural frequency.

"F. C— took 1 oz. 3 drachms in fifteen days. Increased appetite, and vigour, and slow pulse continued for seven days. Then the proving was interrupted, and was not mentioned in the second part, which was occupied with vesical symptoms; but on the seventh day the strength had begun to fail, though the appetite kept up.

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* *Zeitschrift für Erfahrungsheilkunst*, herausgegeben von Dr. A. Bernhardi und Dr. F. Löffler, Berlin, 1849.

"C. R—, 1 oz. *Liq. ferri* in fifteen days. Increased appetite is mentioned during the first three days, and the appetite was not named afterwards. The urinary symptoms were the most prominent from the fourth day. On the seventh day the complexion lost its natural brilliancy, but few other symptoms were observed.

"R. S— took 2 oz. within twenty-four days. Few local symptoms were observed, but the pulse sank about twelve beats, and became full and tense. For the first half of the proving, increase of mental and bodily energy; but in the latter half there occurred a feeling of weakness, laziness, disinclination for bodily and mental activity, fatigue on the least exertion, especially walking. In the last days of taking the drug, and four days after leaving it off, he had an almost insuperable inclination to sleep under all circumstances, and at all times. The appetite continued good throughout.

"C. H— took 1½ oz. *Liq. ferri acetat.* in seventeen days. The appetite was increased, and remained so throughout, and the digestion excellent. For the first three days there was an increased feeling of health, and bodily and mental energy; but from the fourth to the end he had a feeling of weakness and weight in the limbs, along with ill-humour and indifference to everything, and impairment of memory."

The symptoms may be thus summed up—

"During the first period of the proving, up to the fourth or to the tenth day, there occurred warmth and fulness in the region of the stomach; at times pressure and pain there after meals; weight in the head, and compression in the temples and forehead, congestive fulness in the head; beating of the arteries in the temples; appetite always unimpaired, and even increased to ravenous hunger, and the quantity of food eaten and digested much augmented. The general feeling of strength increased, so that they can go through more bodily and mental labour without fatigue. At the same time the pulse becomes fuller, slower, and more tense. This state was succeeded by a state of relaxation and debility till the end of the proving, even when the appetite did not fail, which was not always the case."

From these experiments it would appear that it acts as a tonic and stimulant, probably through the nervous system, on the digestive organs, largely increased appetite being observed in all the provers, while it is also distinctly stated that in some the quantity of food taken and digested was greatly augmented. These circumstances are quite sufficient to account for the signs of plethora, without the action of additional *Iron* as pabulum, or its direct combination with the blood-corpuscles. Nor does the deepened colour of the blood strengthen that supposition, for though that was formerly almost universally assumed to depend on the *Iron* contained in the corpuscles, yet it is now known that such is not the case. According to Dr. Sharpey—

"When thus deprived of *Iron* the hæmatin retains its colour, and has suffered no appreciable change in character. It would seem, therefore, that *Iron*, although a constant ingredient in the red corpuscle, is not an essential constituent of hæmatin, and it is, at any rate, clear that the red colour of the blood is not caused by *Iron*." (P. 35.)

While thus we see that in one sphere of its action the *Iron* produces a powerful tonic effect on the nervous system, let us see what was really the state of the blood as shown by these valuable experiments. The following are the results:—

"Of the five provings of *Iron* taken for fifteen days on the blood, four ounces were drawn from each person three days before the proving was commenced, and the same quantity at the conclusion. In all cases there was *increase of the watery parts of the blood, and a corresponding diminution of its solid constituents;* diminution of the solid constituents of the serum, with very slight variations in its earthy constituents; increase of the earthy parts of the coagulum; increase of the salts soluble in water in the blood-ash; darker colour of the blood; deeper colour of the blood-corpuscles. In most were noticed slight diminution of the fibrine in four cases, still slighter increase in one; increase of the colourless corpuscles in four cases, diminution in one. In one case the *proportion of Oxide of Iron* in the ashes was unchanged, and in another slightly increased, whilst *in three it was actually diminished.*"

Now, with these data, how are we to explain the action of *Iron* in chlorosis? According to Pereira, the general indications for its use are—

"Debility, feebleness, and inertia of the different organs of the body, atomy (marked by a soft, lax, or flabby condition of the solids), and defect of the red corpuscles of the blood—as where there is a general deficiency of this fluid (*anæmia, oligæmia*), or a watery condition of it (hydræmia, serous crasis, leucophlegmatic temperament)."

How does *Iron* fulfil these indications? In their theories on this point authors are not consistent with each other, or even with themselves. For instance, Pereira, in our quotation given at p. 256, appears to disclaim the pabulum theory of *Iron*, while at p. 190 of his work, he uses the following expressions:—

"In the treatment of anæmia *Iron* acts, in part, as an aliment. It supplies to the blood-corpuscles an ingredient in which they are deficient, and it may therefore be said to serve as nourishment for them."

Again, for the fulfilment of the above indications, viz., debility, anæmia, and hydræmia, he, in common with Trousseau and most other authors, frequently looks to the tonic powers of *Iron;* whilst, in our former quotation, at p. 256, he attributes the improvement of the blood to an unexplained power of correcting the defect in the blood-making process. Now, herein lies the whole question,—What is the physiologically specific property of *Iron* which enables it to correct the faulty blood formation, seeing that it lies neither in its power as a tonic nor as a pabulum? That it is not as a tonic is proved by the numerous cases in the ordinary practice in which it is impossible to give it in doses sufficient to produce its tonic effect, owing to the irritability and debility of the digestive organs which will not bear the stimulus to increased digestion, which the favourable action of a tonic implies. Likewise, even in the ordinary practice, it is known that it will prove beneficial when given in the form of mineral waters, where it is so diluted as to be incapable of exerting any tonic or stimulating effect on the healthy body. In addition to that, we have now the experience of the homœopathic school, in which it has proved curative in chlorosis, in doses far below even those of mineral waters, and incapable of producing any appreciable effect on healthy persons, unless a special contingent susceptibility be present. Therefore, the primary physiologically specific power of *Iron* (as a tonic on the nervous system) does not suffice to explain its curative action in chlorosis. Is it not, then, effected by its primary influence on the blood formation? We have seen that the primary effect of *Iron* is to increase the quantity and richness of colour and number of the corpuscles of the blood, even up to plethora, with augmentation of muscular vigour. It is true that these effects are shortly followed by languor and debility, poverty of the blood, and, finally, hydræmia. May not this latter state be considered as simply the consequence of the former state of over excitement of the blood-forming function, just as constipation usually follows after over stimulation by purgative medicine, or sleeplessness after opiates, or any other secondary action after its primary? This is plausible, and under this theory the curative action of *Iron* would simply be using its primary action to counteract an opposite morbid state, just as purgatives are used against constipation. Accordingly, it is almost universally assumed in the ordinary practice that when under the influence of *Iron* in chlorosis the appetite increases, digestion is promoted, the pulse becomes fuller and stronger, the skin assumes its natural tint, the lips and cheeks become more florid, the temperature of the body is increased, and muscular strength is augmented, with the disappearance of œdema, the *Iron* is merely producing its primary physiologically specific effect, *i. e.* presuming that the pabulum action is set aside, which we have seen the best authors are compelled to do in most cases. The above is assumed, but has it ever been demonstrated as matter of fact, or proved by experiment? On the contrary, the theory of plethora, &c., depending on the primary dynamic action of *Iron* on the blood formation, has already been discredited in the previous remarks.

It was then shown that the whole of the plethoric effects, as well as the deepened colour, could be accounted for without the supposition of any direct action of *Iron* on the blood formation at all, being, in fact, referable to the increased appetite and the digestion of a much larger quantity of food than usual, and the primary tonic and stimulant effect on the nervous system. That a mere tonic is capable of producing these effects for a time requires no explanation, as little does the fact that an increased quantity of blood can be produced under the circumstances without any extra *Iron,* because the extra food assimilated contains its proper proportion of that element. Any other tonic influence, whether medicinal or moral, combined with abundance of good food and air, and moderate exercise, would produce the same effect for a time.

Now, it has been already shown that this plethora, producing physiological action, is never manifested except under the conditions necessary for the tonic action of *Iron.* It must, therefore, be identified with the latter, and must share its fate as an explanation. Thus, the three modes of explaining the utility of *Iron* by its acting as pabulum, as a tonic, and as idiopathically increasing the blood-formation in health having failed, just as salivation did with *Mercury,* this medicine is again relegated to the class of specifics. But the subject is far from finished, for we have now to consider the positive evidence as to the real nature of the idiopathic action of *Iron* on the blood-formation in health. What this is may be seen from the abstract of Loeffler's experiments, given at p. 257, and the tenor of these impresses itself so strongly on the author, *not one of* *the homœopathic school,* that he sums up in these words:—

"*Iron,*" he observes, "is said to be a strengthening remedy, and, in fact, it is employed chiefly or exclusively in morbid states, in which weakness is a prominent feature. But let us glance at the result of our provings. A constant and invariable symptom was *general debility, the sensation of weakness, of heaviness and prostration of the limbs, of disinclination for corporeal or mental activity, fatigue, insuperable drowsiness—all signs of a diminution of the strength and feeling of strength. Verily it requires no excessive enthusiasm for the homœopathic doctrine to see in these phenomena a striking proof of its truth.*"—*B. J. of Hom.*, p. 258, vol. viii.

These are truly remarkable facts, and it is matter of surprise that they have not attracted more attention from systematic writers. Henceforward, whatever be the theory of any practitioner who uses *Iron* in anæmia, let him never lose sight of the fact that he is using a medicine whose action on the healthy body is to induce those symptoms of prostration of strength attended with a watery state of the blood and diminution of the *Iron* contained in it, within the space of from four to ten days, *i. e.*, within the first, or, at most, the second week. So far, then, the probability is that the true primary action on the blood-formation is to cause the hydræmic state, not the plethoric. The blood was not analysed till the fifteenth day, but no doubt from the symptoms it began earlier, and possibly quite early, in spite of the strong tonic influence on the nervous system which counteracted and obscured it during the first two or three days. We may now begin to perceive what may possibly furnish the true explanation of the discrepancies prevailing among authors respecting the action of *Iron;* for if, as above surmised, the hydræmic state is an independent and primary action, and in fact it and the plethoric action do not stand in the relation of cause and effect, then the difficulty may be solved by the recognition of several independent actions in different cases, or even going on simultaneously in the same case. In fact, *Iron* like all other powerful medicines has several distinct spheres of action.

Of these bearing on our present subject, we have already considered the tonic, and shall incidentally notice the spoliative. But our attention must now be concentrated on the more intimate nature of its actions as pabulum, and as a so-called hæmatic.

According to Dr. Bence Jones*—

"When a soluble salt of iron is taken, in a few hours some part of it is converted into a sulphuret, or is reduced to the state of oxide in the bowels, and thus losing its solubility and power of diffusion, it is thrown out as perfectly useless as if it had never been taken.

"Another part escaping precipitation remains dissolved, and passes in from seven to ten minutes, when the stomach is empty, into the urine, where it may be detected by the ordinary chemical tests, partly oxidized, if capable of oxidation, and this part also is of no use unless some local action of *Iron* on the urinary passages or bladder is required.

"A third part, instead of passing off in the urine, diffuses from the liquor sanguinis into every texture, and into the blood-globules and white corpuscles, making a greater formation of hæmoglobin, and thereby promoting that combination with protagon on which the production of new blood-globules depends." (P. 279).

And again—

"Until lately we possessed no definite knowledge of the diffusion of medicines after they entered into the blood. We now know that crystalloid food or medicine passes through the walls of the capillaries and through cell-walls as readily as though no membranes intervened between the blood and the parenchymatous or intracellular fluid. According to the diffusive power of the crystalloid substances in the liquor sanguinis and in the inter- and intra-cellular fluid, the same substance will be found in equal quantities in these different places. Hence, by dialysis, all crystalloid medicines act as directly on the textures as on the blood, and no crystalloid medicine can be limited in its action to the blood alone." (P. 277).

From this there can remain no doubt that ferruginous, like other crystalloid solutions, are very rapidly diffused everywhere; and as far as this goes, it furnishes another argument in favour of the solidist school, for it takes away the advantage of priority of action on the blood which was supposed to follow from its being first brought into contact with extraneous substances. But it takes no account of the fact that many colloid substances act powerfully and rapidly as poisons, nor does it recognise the fact that many influences, both morbid and medicinal, can be transmitted by the nerves of organic sympathy. Therefore, beyond showing the physical nature of the diffusion-process, we do not see how it favours any theory of the deficiency of *Iron* containing corpuscles being supplied by any merely chemical process. We knew already that nearly all substances can be absorbed into the blood and universally diffused, but this by no means explains any particular action; on the contrary, action is confined to those parts possessing an appropriate susceptibility, and with respect to all other parts the foreign agent is inert. Though *Iron* or any other crystalloid were diffused through the living matter of the solids, and even the corpuscles themselves, as carmine and other inert colouring matters are known to be, yet, unless the disposition to be acted on vitally were present, it would have no more effect there than in the stomach.

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* *Lectures on Pathology,* &c., 1867.

We are not a whit wiser than we were before, and it must surprise us to hear Bence Jones speak of the mere introduction of *Iron* "making a greater formation of hæmaglobin," as if it were a simple chemical combination. It may be quite true, as he says at p. 295, that "without *Iron* no hæmatin can be produced, so that *Iron* is one food of the globules;" but this gives no answer to the question why the numerically deficient corpuscles are increased in amount. The *Iron*, as before said, forms only 154th part of the corpuscle; why then should we attribute such paramount importance to its influence, and by what possible chemical process can it compel the formation of the other 153 parts composing this most complex and highly organised body? But, in truth, we can scarcely suppose that any one seriously means that ordinary chemical affinity can suffice for such a process.* We may, therefore, turn at once to the question whether the mere absorption of *Iron* into the blood affords the condition for its assimilation by a vital process as pabulum.

Some light is thrown upon this subject by the experiments and remarks of C. Bernard, on the effect of introducing into the blood an excess of certain normal constituents, such as common salt, albumen, or water. He found that, when in excess, these substances acted as a poison, and were speedily eliminated; and this he explains on the ground that chloride of sodium, albumen, and water respectively, are constituents of the blood only under the form of certain definite "organic combinations" in ordinary circumstances, and more than that quantity therefore cannot be retained.

Hermann also says, with respect to the inorganic constituents, "for the most part they appear to be never simply dissolved, but form unknown chemical combinations with the complicated organic constituents. It is only thus that we can explain their constant proportion to the other substances."

No doubt the same takes place with respect to *Iron*, and, as far as this goes, it excludes all those therapeutic hypotheses which involve an increased richness of the plasma in *Iron* beyond the very short period before the excess is drained off; and, accordingly, in the experiments before alluded to by Brücke and Loeffler, there was no proof with respect to the former, that any additional *Iron* remained in the plasma or globules, while with respect to the latter there is direct proof to the contrary. The question, however, still remains unanswered, whether this surplus chemical solution of *Iron* simply absorbed or injected into the blood is in the same organic combination as that which naturally exists in definite proportion in the blood. This has not been ascertained by experiment, and the presumption is that it is not.

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* The homœopathic school is nothing if not vitalist. I have previously given some fundamental principles, drawn from the physiological system of Dr. Fletcher, one of the purest of the vitalist school, which lead directly to the homœopathic law of specifics. Since Fletcher's time, organic chemistry has made great progress; the doctrines of equivalence and conservation of force have been added to physics, and both these, in addition to the cellular and protoplasmic theory, have made a great change upon physiology. It becomes, therefore, of importance to ascertain whether the purely vitalist theory and the doctrine of stimulus, as an integral part of the vital process, can be reconciled with the more recently discovered facts. I have examined the subject, and believe they may be not only reconciled, but that some of the subsequent discoveries have been anticipated in a remarkable manner by Dr. Fletcher. The subject, however, is too large to be discussed here, and must be left for some future occasion, when the allusions to those doctrines occurring in this paper can be explained.

The surplus solution must be regarded as a foreign body destined to be quickly eliminated, and may also display its action as a specific stimulus. If, however, we suppose that *Iron* and some of the other inorganic ingredients can be assimilated from solutions of their salts simply absorbed through the veins, this is nothing more than expressing in another form the idea that substances may be used as pabulum without passing through the process of digestion, and this harmonises with a number of well-known facts. For example, enemata of milk, beef-tea, and raw eggs, are capable of sustaining life for a time; likewise, some substances, like Liebig's raw meat extract, seem to be absorbed by the veins without digestion. The same may be said of alcohol in various forms. Inunction of fatty and other nutrient matters into the skin belongs also to the same category. Still stronger instances may be found in hybernation and starvation, in which cases the animal may be said to feed upon its own tissues, and this is remarkably seen in the experiment of death of an herbivorous animal, by inanition, during which process the urea which is excreted approaches the proportion of that of the carnivorous tribe, to which, in fact, it belongs for the time being. In all these cases the absorbed matters are utilised as food, directly or indirectly.

It must not, however, be supposed that those organic compounds directly absorbed from without, or taken up from the tissues during inanition—however like the natural tissues they may be—are ever simply deposited from solution in the blood, but they are decomposed and recomposed by a vital process, and, in fact, they must again pass through the living state. As expressed by L. Beale—

"The fat, amyloid, or sugar that may be got from the liver, are not the same substances as were absorbed from the intestines, nor are they the substances absorbed somewhat modified, but it is probable that they are new bodies altogether, possessing definite characters."—Beale, *Kidney Diseases*, p. 259., 3rd. ed.

The above instances of food taken up by mere absorption refer only to organic compounds which are really nutriment in the ordinary sense, and do not prove that the inorganic constituents, such as lime and iron, can be assimilated in the same manner, though they may give some countenance to this position. We must remember, also, that in these instances the organic compounds contained their full proportion of inorganic material inseparably combined with them.

So far, we perceive that the theory which accounts for the action of *Iron* in chloro-anæmia, as partly a vital stimulus and partly pabulum, may be correct. But as to the question whether it ever does good in the latter capacity, viz., as pabulum, is still encumbered with many difficulties. To elucidate these we must look at the subject from a new point of view, viz., that which regards food as only properly consisting of those materials which can furnish active force by oxidation. We shall thus perceive a broad line of demarcation between the office of the organic, and that of the inorganic, constituents of the food, and we shall also perceive more clearly the distinction between pabulum and stimulus. According to Hermann, it is only chemical combination of the elements that can be used as nutriment, and, moreover, only such as fulfil the following conditions:—

"1st. The combination must be such as is fitted for absorption into the blood or chyle directly, or through the digestive process; 2nd. It must either be oxidizable and accessible to the oxidating powers of the organism, or it must be fitted to replace one of the *un*oxidizable constituents of the body; the former condition is most surely fulfilled by those combinations which correspond to the usual organic components of the blood and tissues; 3rd. It must not possess, either in itself, or at any stage of its oxidation, properties which could act injuriously on the structure or function of any organ of the body (such substances are called poisons)."

From this it appears that the materials of nutriment fall into two natural groups, viz., first, the inorganic constituents consisting chiefly of water and salts which replace the inoxidizable constituents; and, secondly, the organic materials which must be oxidizable. Now, we know that the whole amount of active force displayed by the living animal is equivalent to that set free by the oxidation of the oxidizable materials within it, that is, practically, for the instances in which force is set free by other modes of satisfying chemical affinity are unimportant and exceptional. Therefore,—

"the value of a nutriment is determined by the sum of tensive force represented by it, *i. e.*, the quantum of active force or work that arises from its oxidation. The more completely an organic compound is already oxidized, and the less oxygen it is now able to combine with, so much the more worthless is it for the purposes of the economy. Hence, urea is no nutriment at all, *Kreatine* nearly worthless as such,* while albumen and sugar, on the other hand, have a high value as food."– (Hermann, p. 167.)

From this we perceive, what was not obvious before, why it is that the excreta of animals can not be used as food by any of the same species, and the teleological reason of the insuperable disgust they inspire. By the same rule we may obtain an explanation of the fact, that the loss of the natural amount of excrementitious matters causes no impairment of strength, whilst, on the other hand, the loss of substances of higher potential energy, as measured by their capacity for oxidation, has debilitating results. Such are in an ascending scale, serum, milk, pus, blood, and semen. With respect to the inorganic group of materials of nutriment, their office is more obscure. Their use is obvious enough when advantage is taken of their physical qualities to give hardness to the bones and teeth, &c., but their constant presence in all the tissues in certain small fixed proportions has not been explained, and it is probable they are integral elements of the metabolic constitution of living matter. Practically, they cannot be regarded as food in the sense of contributing force, inasmuch as some of them enter and leave the body with their combining affinity for oxygen fully satisfied, such as the alkalies and earth; while others, such as sulphur, phosphorus, and iron, which exist in albumen, fibrin and hæmatin, probably in an unoxidized state of combination and pass out fully oxidized may yield force, but in quantity of little moment, and is also probably balanced in the case of the *Iron* by a needful reduction process when it was derived from the food in a state of oxide.

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* From this it appears that Liebig's South American Meat-Extracts are likely to disappoint expectation, as they consist chiefly of the soluble crystallizable matters, such as kreatin, kreatinin, inosite, leucin, &c., with none of the albuminates, or albuminoids, or protagon, or fats; in fact, being mainly composed of the semi-excrementitious matters. Without fully understanding the above, I had for some time practically found that the above extracts could by no means be substituted for the fresh raw-meat extract, with muriatic acid, prepared in the cold, which was generally called "Liebig's Extract of Meat," and I am very particular in seeing that it is not confounded with the new solid extract in pots.

The third condition of nutriment given by Hermann, that it shall not act injuriously, or as a poison, now claims our attention. This proviso was necessary, for it is quite plain that some substances are capable of being oxidized and also of replacing the inorganic elements, while, at the same time, they cannot be used as nutriment, owing to their violent action as poisons, *e. g.*, crude phosphorus. Now we know that no substance is unconditionally a poison, but, on the contrary, under certain limitations of quantity, a salutary agency may be discerned in everything; the so-called poisons are, therefore, nothing but stimuli in excess, and they differ from pabulum inasmuch as in the capacity of liberators of action their effect is out of all proportion to what it would be as pabulum, (see p. 265, note). But there are many substances whose action as stimuli is not so powerful as to preclude their use as pabulum also, and thus they may be used in the double capacity of stimulus and pabulum. As an example of such a substance let us consider alcohol.

The difficulties which encumber our comprehension of the action of this variously estimated substance may perhaps be cleared up, if we remember that like other substances it has different spheres of action independent of each other; one or other of which may be represented, or all together at the same time. When *Alcohol* is absorbed directly into the capillary veins, it diffuses immediately everywhere into the tissues like other crystalloids, and may undoubtedly be detected unchanged, as was done by Percy, long ago, in various organs after many hours. The same has been insisted on more recently by Lallemand, Duroy, and Perrin, who maintained that *the whole* of it was sooner or later eliminated unchanged, and, therefore, it could, in no sense, be food.

These results were contradicted by the experiments of E. Baudot, and, subsequently, those of H. Schulinus and of Dr. Anstie, by which it was proved that when alcohol is taken in anything like moderation, though some escapes by the breath and urine, unchanged, yet this amount is out of all proportion, small, while the great bulk is retained and oxidated in the system. It must, therefore, furnish active force, and thus serve as food wherever or by whatever means, the oxidation be effected. The cases collected by Drs. Inman and Anstie place beyond question the fact that *Alcohol*, in various forms, does act as food in the proper sense of the word.* At the same time no one will question the fact that *Alcohol* acts also in the capacity of a stimulus, and, in moderate dose, its primary physiological action is that of a stimulant to the heart, through its operation by elective affinity on the cardiac nerves. In still larger doses it is a narcotic disordering the functions of the hemispheres of the brain. This double action, viz., as pabulum and stimulus, may be often observed taking place in the same case and at the same time. For example, during its use in typhus and typhoid fevers. In these diseases, at the stage when wine is most beneficial, the state of inanition has set in and the body is feeding on its own tissues, while the digestive process is in abeyance, thus cutting off the supply of nutriment by the natural channel. If wine or alcohol in any diluted form be now given, it is immediately taken up by direct absorption which is now excessively active. A large, if not the greater, part is undoubtedly consumed as pabulum, whilst another portion acts directly as a stimulant, sustaining the flagging power of the heart. On this subject I agree in nearly all points with Dr. Hayle Rochdale, in his very interesting and suggestive paper on *Alcohol*, in the *M. Hom. Rev.*, vol. x.

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* "The case, which first attracted my attention to the possibility of the human organism subsisting, under certain circumstances, for a long time upon alcohol only (or practically so), was that of an old man who became my patient in 1861, at the Westminster Hospital. He was at that time eighty-three years old, and was half led, half carried, to the hospital by his daughter for relief from chronic bronchitis, which was just then severely aggravated. It happened that in prescribing for him the subject of stimulants was mentioned, and the old man, apprehending that, as a matter of course, I should put him on a severe régime (he was an old soldier), begged and prayed that his 'drop of drink' might not be taken away from him. I somewhat carelessly enquired what the amount of the said 'drop' might ordinarily be, and received the astonishing answer—'A bottle of gin a day.' Here the daughter interfered, and remarked that it would be death to him to take away this source of support, for he ate no food. Inquiring what 'no food' meant, I was assured again and again that one small finger-length of bread, usually toasted, was all that he *ever* took from one end of the day to the other. He was occasionally drunk, but not often, and was a man of astonishingly active

Independently of its use as pabulum, I believe that the action of *Alcohol* in fever is solely through its primary physiological operation as a stimulant, and cannot be brought under the homœopathic law. It seems to me of great practical moment that we should recognise this, for knowing as we do that all primary physiological actions are liable to be followed by corresponding exhaustion or recoil, we shall

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habits for his age. I need hardly say that it was a matter of utter impossibility for me to watch this man and his friends day and night, to make sure that they were not deceiving me; but their story was confirmed by a neighbour who brought the old man on one occasion. I kept this case in view for a twelvemonth, when a renewed access of bronchitis carried the patient off. Again I made searching inquiries, and was assured that the man's habits of life were such as I have mentioned, and that they had been so for a great number of years, about twenty years, his daughter believed. It was certain that he did not take tea or coffee, or anything of that kind, even; and the only thing besides his gin and water (which he drank unsweetened), which could have helped to support him, was the daily fragment of bread and a few pipes of tobacco."—*Stimulants and Narcotics*, by F. E. Anstie, M.D., p. 451.

be better able to avoid abuse of this powerful agent. We should, in fact, remember that our object is merely to supply, for a short time, the place of the natural stimuli; therefore, we must beware of creating a fresh want consequent on the over-action of this substitute.

With respect to inflammatory diseases it may be different, and in this case the alcohol may give relief by acting as a direct stimulus to the weakened capillary vessels of the inflamed part, just as stimulating lotions do when applied to the eye, or other external inflammations. More caution will be needed here in the dose as the operation is, to a certain extent, homœopathic. And more still, if *Alcohol* were to be given in inflammation of this nervous tissue on which it acts specifically as to seat.

With these three distinct spheres of action, viz., pabulum, nervine stimulant, and capillary stimulus, sufficient scope is afforded for all the varieties of power that have been attributed to it, and a sufficient explanation is given of the contradictory opinions that are held respecting its action by persons who persist in looking at it from an exclusive and one-sided point of view.*

I am convinced that much abuse of stimulants prevails in the treatment of fever and other diseases, but it would be presumptuous to attempt to lay down any dogmatic rule respecting the quantity that may be given, for, independently of the immense variety of circumstances affecting that, we have great difficulty in determining how much may be consumed as pabulum, and how much remains free to act as a stimulant, and also under what conditions and in what organs it is consumed. Likewise, whether, as supposed by some, it can act as stimulant and pabulum at the same time by directly feeding the nerve-cells of the grey matter whose function it is to evolve the *vis nervosa.* Such a mode of action is improbable and receives no countenance from physiologists. The probability being that it must first be converted into blood, as will be shown further on.

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* Carpenter's *Manual of Physiology*, which is in the hands of most students, is weak on this subject, and moreover it is self-contradictory, for at p. 327, 4th edition, the author gives some inconclusive arguments against the possibility of its acting as pabulum; his second clause is nothing but a logical fallacy turning on the word "essential;" while, at p. 366, he states that diluted alcoholic drinks given in diseases in which digestion is suspended, may be absorbed, and act as combustible matter, keeping up the heat of the body. Now, this is granting the whole question on the definition of food above given, and we now know the distinction as to heat-producing and other foods does not exist.

But this subject is too important to be fully discussed in connexion with one kind of pabulum alone, such as alcohol; it will, therefore, be desirable to enter more into detail respecting the fundamental nature of the process of absorption of nutritive and other matters, in order to have a clear conception of the distinction between stimulus and pabulum. Of the two modes of absorption, viz., direct through the veins, and indirect through the lacteals, let us notice first the latter.

The great bulk of the most important elements of the food, such as the carbo-hydrates, especially starch and the albuminates, including albumen, fibrin, muscular substance, casein, &c., and also gluten and fats, after first being rendered soluble and otherwise prepared by the salivary, gastric, pancreatic, and other secretions, are taken up by a strictly vital process called primary assimilation.

Simple absorption of the chyme does not take place, for its properties are changed in a most important manner at the very entrance by the lymphatic cells, which exist not only in what are commonly called lymphatic glands, but are found in the follicles at the very commencement of the lacteals, so that, as Hermann says, all that we know of chyle and lymph is concerning that which has already passed the glands (p. 117), and it is now a substance closely resembling blood into which it is soon to be poured.

After reviewing (Quain, p. 845) what is known on the subject, Dr. Sharpey pronounces that the lacteals have no open communication with the free surface of the villi (Quain, p. clxxxv). So (though the exceptional passage of solid foreign particles into them is not explained) there is no reason to presume that any part of a fluid of so high an endosmotic equivalent can enter the lacteals unchanged. Beale is of opinion that all the chyme must pass through the state of living protoplasm (or germinal matter) before it becomes part of the blood.

"The new constituents, whether albuminous, starchy, saccharine, or fatty, which are to be added in the blood, to supply the place of the materials which are being removed from it in the process of nutrition, are probably taken up from the intestinal surface in a soluble form, and appropriated by germinal matter, entering into the composition of the chyle corpuscles which grow and multiply in the lacteal vessels, as well as the white blood-corpuscles circulating in the capillaries. At the same time that these masses of germinal matter are increasing in size and giving rise by division to new masses, a certain proportion of the mass probably becomes resolved into the various soluble substances which enter into the composition of the serous fluid. All the new pabulum must, therefore, pass into the blood in these two forms as masses of living germinal matter, varying in size, which become the white and at length the red blood corpuscles, and *serum* which consists of a solution of albumen in water, with the so-called extractive matters, traces of fatty matter, and various kind of salts."—*Beale's Todd, and Bowman*, page 152-153.

In direct absorption the phenomena are different, for here a considerable proportion of the actual nutriment of the body may be taken up at once into the veins, probably in great measure by the merely physical process of endosmosis. Of the contents of the digestive apparatus, the following may be absorbed chiefly in this way, viz., (1) water; (2) soluble salts; (3) different varieties of sugar, either taken as food or converted from starch; (4) other soluble matters in the food, and the surplus of the digestive juices, pepsine, &c., while the saponified fats, the peptones, the gelatinous solutions and emulsified fats are chiefly or wholly taken up by the lacteals. But this is merely an approximation to the truth, for it is as yet impossible to pronounce with any degree of certainty, in ordinary digestion, which substances are taken up directly and which by the lacteals; the most that can be said is that the first four above-mentioned divisions being of low endosmotic equivalent can be and frequently are absorbed directly into the veins, while with respect to the last four the lacteals are the channel. It is, therefore, presumed that in ordinary digestion the four former may be taken up in equal proportion by both ways, if not in greater proportion by the direct way; whilst with respect to the latter the converse is the case, if, indeed, their absorption is not exclusively by the lacteals. On the other hand foreign soluble substances, such as medicines, &c., appear to be taken up exclusively by the blood-vessels. It is, therefore, quite possible, if not probable, that in ordinary healthy digestion, if there is due admixture in proper proportion of the nutritive principles, and no over rapidity in eating or drinking, the whole of the food is taken up by the lacteals and transformed in the act of absorption into white blood with all the elements, both organic and inorganic, in due proportion, and thus no digestible substance can act (except in the way of a condiment) as a specific stimulus, being wholly transformed into pabulum. No doubt alcohol, like sugar, when taken in great moderation, especially in natural combination, as wine and beer, is up to a certain point consumed as pabulum in this manner, and does not enter the blood at all as alcohol. In such instances all that is reserved for direct absorption into the veins is any excess of water or salts along with the surplus of the digestive juices somewhat altered after performing their functions (viz., the saliva, mucus, and pancreatic, gastric, and enteric juices, and part of the bile). But, in many circumstances, as when taken alone on an empty stomach, or too rapidly, or in undue proportion, the above four classes of absorbable substances may be taken up directly to a large extent, and thus be expected to act as both pabulum and specific stimulus. Hence may be deduced an obvious practical rule, that substances intended to act as pabulum should be given at meals, while those which are intended to act as medicinal stimuli should be given on an empty stomach. In what way these directly absorbed substances can become pabulum may be best understood by studying the far more important changes of the same nature which are continually going on throughout the system in the process of absorption. For a very simple calculation will show that the quantity of new matter added to the blood through the lacteals and mesenteric veins bears a very inconsiderable relation to the total amount of fluid in the veins and lymphatics of the system generally.

Taking Fletcher as the representative of the purely vitalist school before the more recent development of microscopic histology we find that with him the *"capillary or parenchymatous tissue"* was of supreme importance; in it the processes of nutrition and secretion were performed by the purely vital powers of the walls of the vessels, and the blood in those processes was incessantly decomposed by the capillary arteries, and recomposed by the capillary veins and lymphatics. Since then the capillary vessels have lost much of their importance, and are looked upon as mere conduits whose whole vital functions are limited to regulating the supply of blood to the cells and protoplasm which are now regarded as the active agents.

But whatever may be the immediate agents of nutrition the facts remain the same as regards the blood, the whole mass of which is changed from arterial into venous and lymphatic in the parenchyma, and again reconverted into arterial in the lungs within a surprisingly short space of time. The point of importance, therefore, to be now considered is the process by which this reconversion into lymph and venous blood of the products of the decomposition of arterial blood—by which term nutrition may be shortly described—is effected. For it is plain that every particle of the frame must be taken originally from arterial blood, and every particle must be removed in a liquid form through the veins and lymphatics, except the cuticular tissues and the gases. In the process of nutrition the arterial plasma exudes, or is attracted through the walls of the capillaries, and permeating the adjoining mass by transudation, is taken up by the living matter to form tissue. While in the process of absorption or removal of the waste particles

> "in the vascular tissues the old or effete matter must first be reduced to a liquid state and then find its way into the blood-vessels or lymphatics, along with the residual part of the nutritive plasma, and be by them carried off." (Sharpey, p. 26).

Now what are old and effete matters, and in what sense is the expression "wear and tear of the tissues to be understood."

Confusion is produced by the use of the word effete in two senses, viz., that of matters like urea, kreatin, &c., which are wholly or partially excrementitious, because their potential energy or tensive force is wholly or nearly spent, *i. e.*, they are incapable of further oxidation in the organism, and 2nd, what are probably the immediate products of the waste of tissue in a liquid form, viz., the "parenchymatous juices," and other albuminous substances of high potential energy, capable of being used as a pabulum elsewhere and probably reconverted into blood on the spot.

> "But the lymphatics may also take up those particles of the solid framework which have lost their vital powers, and which are, therefore, not fit to be retained as components of the living system, but which have not undergone a degree of decay that prevents them from serving, like matter derived from the dead bodies of *other* animals, as a material for reconstruction when it has been again subjected to the organizing process." (*Carpenter*, p. 371).

The term "parenchymatous juices" seems to include the surplus material transuded from the blood which soaks the textures, and also matters possessing the specific characters of the part, such as the muscles, the connective tissue, the viscera, &c., in a liquid form and presumably ready for absorption and removal. Now these specific matters did not exist in the blood, nor do they exist anywhere else; they must, therefore, be formed on the spot by the vital process of nutrition; also, we now know that no tissues are formed in the liquid state and deposited, but always by the direct growth of protoplasm which must be classed as a solid. These specific juices must, therefore, be regarded as the product of the disintegration of the already formed tissues. But "the process of disintegration," and indeed, the very nature of what constitutes "wear and tear" of the formed tissues, are involved in the greatest obscurity, and it must be confessed that there exists here a great blank in the province of physiological discovery. Even Beale, who has so far advanced our knowledge of the process of nutrition, is here imperfect. As we might expect here, as wherever physiological discovery is defective, the chemists are rampant and have no difficulties, referring the whole process to chemical actions generally or always involving oxidation, thus ignoring the fact that the parenchymatous juices are often high in the scale of potential energy. But this subject is too large to be discussed here. I will, therefore, merely observe that though we cannot yet say that chemical processes are *never* brought into play in the living body for the removal of effete matters, yet we cannot but regard the current theories of chemical pathology and therapeutics as wholly unproved and resting on a series of assumptions that would not be permitted for a moment in the pure sciences. Therefore, though still unexplained, we must continue to regard these processes as strictly vital. This seems to be the conclusion arrived at by Dr. Sharpey, though only incidentally expressed, for the question is seldom directly grappled with by physiologists.

> "The several acts of assuming and assimilating new matter, of conferring on it organic structure and form, and *disorganising again that which is to be removed*, which are so many manifestations of the *metabolic* and *plastic* properties already spoken of, are performed beyond the blood-vessels." (P. 26.)

The views of Virchow respecting the process of the formation of the marrow during the development of bone (*Cellular Pathology*, p. 410), may throw some light on this question. And more especially the following expressions of Beale:—

> "For we shall find that just as the germinal matter of the fungus may grow and live, and produce new germinal matter at the expense of the formed material already formed, so the germinal matter of a cell of the highest organism may increase and consume its formed material. In this way we shall see that firm and scarcely changing tissues may become the seat of active change, and ultimately be removed. Thus is the fatty matter of a disease tissue removed, and the hard compact tissue of bone scooped out

to make room for new osseous texture."—*Medical Times*, Nov. 21st, 1868.

"The germinal matter may even appropriate the formed material itself, as we found happened in the case of the formed material of mildew, epithelium, and other kinds of this substance." —*Medical Times*, Jan. 2nd, 1869.

But is this truly the natural process of daily tear and wear of the tissues? If so, what are the products? Are they the true effete matters such as urea, or are they the parenchymatous juices? Also, if it is the inner and last-formed parts of the tissue which are thus consumed, what becomes of the outer parts, *i.e.*, those furthest from the nucleus? All these questions are still unanswered, but still the tendency of these views is towards a purely vital theory of the process of disintegration.

Carpenter (p. 171), it is true, is inclined to think that the fat may be absorbed by a physical process since the discovery of Matteucci, that fatty particles in fine division, may pass by endosmose into a fluid on the other side of animal membrane, provided the fluid be alkaline. Now, when the blood is below par in its natural proportion of fatty matter this process may be set a-going. But this does not explain what emulsifies the fat in the cells, and Carpenter admits the question of the absorption of fat is still undetermined.

Viewing the matters to be absorbed as a whole, we find they are composed of several classes, viz., 1st, the parenchymatous juices, serous fluids of the cavities, and unchanged transudations from the blood—all these are of high nutritive power; 2nd, the partially or wholly oxidised matters, such as glycin, kreatin, leucin, sarkin extractives, uric acid, urea, and carbonic acid; 3rd, inorganic salts; 4th, sugar and protagon. Of these, the first being colloid, are probably absorbed by the lymphatics alone; while all the rest being crystalloid, are absorbed more or less by both lymphatics and veins. The fluids of the parenchyma form thus a perfect counterpart of the chyme. The lymphatics here perform a function analogous to that of the lacteals and assimilate the first class on the spot, whereas the remaining substances are taken up to be disposed of elsewhere; and the destiny of these, particularly the sugar, will most likely afford the explanation of the assimilation of corresponding matters, such as alcohol in the chyme.

The origin of the lymphatics is not yet entirely settled; but it may be taken as demonstrated that they arise from shut cavities, either plexiform or lacunar, which are lined with a membrane composed of nucleated epithelial scales; and which have no communication with the blood capillaries nor are in any other way open (except, perhaps, in the shut serous sacs). The mechanism of the process of absorption by the lymphatics is not fully understood, but it is supposed to be partly physical by means of filtration and diffusion, and partly vital. The rapidity of absorption of merely transuded fluids appears to be increased in proportion to their increased quantity and consequent tension, such as is produced by dilatation of the arteries or compression of the veins. The lymphatics are therefore probably the regulators of the turgor of the parenchyma, and it is upon defect of their function that œdema depends. Now, from the mode of origin of these vessels the analogy with the lacteals is complete, and if white corpuscles are found in the lymphatics before they reach a lymphatic gland, then it may be presumed that there is a source of white corpuscles at the very point of entrance of albuminous matters into the lymphatics, and that there these matters are not simply absorbed but reconverted into blood, just as with the lacteals. Physiologists are agreed on the fact of the presence of white corpuscles in the lymphatic radicles, but are divided in opinion as to their exact source.

Hermann is still inclined to admit as sources of white corpuscles the nuclei or protoplasmic masses described by von Recklinghausen, at the points of intersection of the reticulating juice canals of the connective tissue, which Virchow supposes to be in communication with the lymphatics, and, in fact, the origin of them. But many German, and apparently all English physiologists, including Carpenter, L. Beale, and Sharpey, deny the existence of the juice canals. In short, the connective tissue corpuscles, according to Sharpey, are "little misshapen masses of protoplasm, with irregular offsets or processes, which last have been erroneously regarded by Virchow as hollow canals." The only other source of the white corpuscles which are admitted to be found in the lymphatics before they reach follicles or glands, is supposed to be the epithelial cells of the vessels themselves. This is cautiously expressed by Sharpey:

> "It has been suggested that lymph corpuscles are produced by multiplication of cells in the epithelium which lines the lymphatic vessels, in the same way as mucous corpuscles are supposed to be formed from the epithelium of mucous membranes."—*Sharpey*, l.

It is very probable that this, which is in accordance with the views of Beale, will be ultimately accepted; and the masses of protoplasm forming the nuclei of the epithelial cells of the inner coat of the lymphatics are thus the main agents in the reconversion into blood of the disintegrated tissues. Thus we come back pretty nearly to Fletcher's recomposition of the blood in the venous capillaries, in which function he included the lymphatics.

And even Fletcher's entire theory that the capillary arteries were the main agents in decomposing the blood into the substance of the tissues, while the capillary veins and lymphatics recomposed it, corresponds more nearly with Beale's recent views than would be at first sight supposed. For Beale, without always distinguishing between the arteries, veins, and lymphatics, attributes most important functions to the masses of protoplasm constituting the nuclei of the epithelial scales of the *capillary* wall.

> "The great importance of the nuclei, or masses of germinal matter of the tissues, in connection with each special formative process, has been already indicated, and the conclusions arrived at render it very improbable that those which are constantly, and in such great number, met with in connection with the capillary vessels are unimportant or are connected only with the development of the vessel as has been supposed. These masses of germinal matter, varying in size and number in different capillaries, and in the same vessels under varying circumstances, often

project into the cavity of the vessel, and, on the other hand, extend beyond the line of its external wall. In inflammations and fevers these masses sometimes increase to four or five times their normal size."—Beale's *Todd and Bowman*, p. 143.

In other places, he seems to look upon them as directly ministering to the nutrition and absorption of the tissues. At the same time it must be observed that we find nothing stated positively by physiologists respecting the function of the nuclei of the venous radicles. It must be extremely difficult to discover whether they also produce white corpuscles and act like the lymphatics in renovating the blood, as being open, they receive the whole stream of red and white corpuscles from the arteries. Having, therefore, no positive data to go upon, we must refrain from speculating how far they may share with the lymphatics the duty of reconverting albuminous matters into blood on the spot.

So far as we have gone, therefore, it appears that all food, before it can act as pabulum to the higher tissues, must first be converted into blood by passing through the state of living protoplasm in the lacteals and lymphatics. There is a beautiful simplicity in this view, which recommends it to our acceptance, inasmuch as the blood formation is thus simply an inverted process of secretion; for all secretions (with the exception of exhaled watery vapour and gases, and transudations) are the product of epithelium cells. In the process of secretion, the blood passes into the state of protoplasm—part of which is resolved into formed material, as expressed by Beale, and part remains. In the other case, the crude material of nutrition passes through the same vital process and becomes living protoplasm, part of which also remains as such, and part is resolved into formed material in the plasma. It must also be remarked that, as far as we have gone, the blood-formation at its source is dependent on the supply of suitable material and a purely vital process, which constitutes the functions of certain masses of living or irritable matter which have a fixed seat in the solids, and are presumably susceptible to the influence of specific stimuli.

This leads us to a probable explanation of the therapeutic specificity of *Cinchona* in the blood disorder, the debility, and other morbid states, consequent upon excessive loss of blood and other vital fluids. After its so-called febrifuge power, there is no property of *Cinchona* so generally admitted as that of relieving debility. In the allopathic school this, without hesitation, is ascribed to its tonic action on the nervous system, and it is by them used indiscriminately in all forms of debility, and for the most part with a merely temporary and palliative benefit. The homœopathic school have avoided this abuse by a more precise definition of the species of debility in which it is specifically curative. But a difficulty has always existed in conceiving wherein lies the resemblance between the debility caused by loss of fluids, and the symptoms produced by moderate doses of a substance which has caused no evacuation whatever. Some writers of the homœopathic school do not hesitate to ascribe the debility to the secondary effect of immoderate tonic and stimulating doses of the bark, and as it resembles that which follows loss of fluids, it is thereby homœopathic. This surely cannot be correct, otherwise the constipation succeeding excessive purgation by *Colocynth*, or the sleeplessness after opiates, would constitute homœopathic indications. On the contrary, we think it is plain that the *Cinchona* debility, described by Hahnemann, was a contingent primary effect of moderate doses, and therefore the corresponding therapeutic action is specific and homœopathic. This is shown conclusively by the fact that infinitesimal doses are sufficient, or, at any rate, doses far too small to exert any tonic or stimulant effect whatever. The foregoing views respecting the blood-formation may afford a more satisfactory explanation. Consider what takes place in any pretty rapid and important loss of blood, directly or mediately by any evacuant or spoliative. There is an immediate acceleration of the process of absorption of watery fluids, which quickly restores the volume of the blood, but renders it more watery; at the same time, as happens in inanition, the process of disintegration and absorption of the tissues becomes more active in order to restore the corpuscles and albuminous elements, and a strain is thus put on the blood-forming cells in the systemic lymphatics (and possibly capillary veins). Now, supposing we have an agent whose primary action on the specific irritability of the lymphatic and capillary nuclei is to retard or stop for a time the function of the recomposition of the blood in which they are incessantly engaged, then we should be able to produce the effects of loss of blood though none was drawn from the body. For it must be remembered that the fluids in the parenchyma and the nutritive matters composing the tissues are already withdrawn from the vascular circulation, and if not restored with due rapidity by disintegration, absorption, and reconversion, the result must be tantamount to the abstraction of blood for the time being. We shall thus have at once the symptoms of loss of blood without hæmorrhage, and subsequently *idiopathic hydræmia* when the watery parts have been restored by absorption before the corpuscles are regenerated. Now, granting the homœopathic law of specifics, and supposing that *Cinchona* has the above powers on the healthy body, it is plain that it must be the specific remedy for idiopathic hydræmia depending on the impairment of the blood-recomposing function of the systemic lymphatics (and capillaries). We say *systemic,* because, though there are other sources of white corpuscles, viz., the lymphatic glands, the Malpighian corpuscles of the spleen, the liver, and the ductless glands, yet these are supplied by arterial blood, contributing largely to the formation of new corpuscles, which, however, are soon returned to the circulation; so that these organs can scarcely be said to add anything to the mass of the blood, but merely elaborate it. This last is indeed shown by the fact that the chyle is not completely coagulated into clot and serum until after passing the lymphatic glands of the mesentery. (*Carpenter,* p. 376.)

There are not sufficient data before us to decide this last question; but the probability is in favour of the above view of the action of *Cinchona* as a restorative, though its undoubted action on the spleen may also come into play here. The experiments of Binz [*] also harmonise with this view. He found that solutions containing $\frac{1}{2000}$ part of *Quinine* had a remarkable effect on the white corpuscles (when locally applied), retarding and stopping their movements, and ultimately destroying their vitality. On this property of *Quinine* he bases his explanation of its antiphlogistic power. I do not, however, lay much stress on the local action of substances on the blood corpuscles, yet we cannot but see that these observations coincide with Hahnemann's conclusions as above interpreted. And they ought to inspire with misgivings the routine prescribers of *Quinine*, who give it in large doses, relying on its stimulating action on the nervous system, and ignoring this other important action of an opposite nature on the blood-forming organs. On collating the subjective symptoms through which Hahnemann, with such wonderful penetration, detected this primary action of *Cinchona*, we may perceive that they chiefly consist of symptoms of accumulated irritability in the nerves, or erethism, such as is caused by deprivation of accustomed stimuli and, above all, by anæmia and want of food. The pathological simile of the *Cinchona* action is here evidently the action on the blood-formation; for he warns us against employing this medicine for any other species of debility, including, therefore, idiopathic nervous debility, and we know its admirable and permanently curative effect in hydræmia and dropsy. We have here, thus, an example of the removal of debility and disease by a purely dynamic and therapeutically specific action of medicine on the blood-formation, and one that does not consist in the exercise of its full physiological action. To this category probably belong, also, *Helonias* and *Phosphoric Acid,* the latter of which I find remarkably useful in the debility arising from too rapid growth. In this class of medicines the attempt is made to explain the action of tonics, by attributing it to the restoration of some natural constituent of the body, in the same off-hand way in which the operation of *Iron* is explained.

[*] *Experimentelle Untersuchungen über das Wesen der Chininwirkungen,* von Dr. C. Binz, Berlin, 1808.

Headland, in his prize essay in 1852, explains the action of *Quinine* as a tonic by supposing it acts as a restorative of some natural principle like itself, supposed to be defective as *Iron* is of the blood in chlorosis. This deficient principle he supposes to be *taurine* (p. 131), and this theory, also, he thinks, explains the tonic action of *Mercury* which acts on the liver and restores the taurine (p. 132). And in fact he concludes generally that tonics act as such by restoring the natural amount of taurine, " or some such element of the bile" (p. 132). No proofs of this are given, and as taurine is now looked on as far down in the scale of products of retrograde metamorphosis, if not actually an excrement, the hypothesis is, to say the least of it, unfortunate. So we shall not be inclined to think much better of B. Jones's more recent speculation, that marsh poison causes ague by destroying the fluorescent quinoidal substance (discovered by him) which naturally exists in the body, while *Quinine* cures ague by restoring that substance. (Bence Jones's *Chemical Pathology and Therapeutics*, p. 37).

As far as we know, this quinoidal substance is no better than taurine, and may turn out as near to an excrement as *Uric acid* or mucin.

I cannot but think that the purely dynamic view of the action of specifics as restoratives, such as is above given, contrasts favorably with speculations such as those just noticed.

We pass now to the destiny of substances absorbed into the blood directly. These, independent of food from without, consist chiefly of the long series of products of the retrograde metamorphosis which are included still in the term " extractives," and the few that have as yet been separated and recognised chemically, such as those already enumerated at p. 549.

It is plain that the whole of the contents of the blood-vessels are not necessarily blood, for, as we have seen, owing to the great facility for absorption, a variety of foreign matters are continually present in the venous blood, and must be disposed of in some way. For example, no one would consider urea, or carbonic acid, as anything but foreign substances on their way to be cast out of the system. But, besides these, there is a long chain of substances rising gradually in nutritive power up to sugar and protagon. What, then, becomes of these? We have already seen that albuminous nutritive matters do not enter the vessels except as transformed into blood at the point of their entrance, while any change in these other matters must take place some where else; the point now is, where that takes place, and what that change is. With respect to the highly nutritive matters we may take the destiny of sugar as the type, as that substance exists in large quantity in some venous blood, and none of it passes out of the body as such, except a mere trace in the urine. Almost every point respecting the formation of sugar in the liver has been disputed, but the balance of experimental testimony is in favour of the fact that sugar exists in the hepatic vein in notable quantity, and disappears again by the time the blood reaches the left side of the heart. There are two theories of its disposal, viz., the chemical and the vital. In the chemical theory it is supposed, while yet in the blood, to be transformed by a purely chemical process, with the help of oxygen and a supposed ferment, first into lactic acid. By a continuance of the same process the lactic acid is changed into carbonic acid and water, with evolution of heat. In short, the whole process amounts to simple combustion, and the sugar is openly said to be "burnt in the blood," for the sole object of furnishing heat. To go fully into this subject would lead us too far from the main purpose. I will, therefore, briefly notice the arguments bearing on this point, which will be found to preponderate in favour of the vital theory. The majority of physiologists have refused to admit that anything like experimental demonstration has been given of the existence of successive chemical stages of the process; or that the process itself is chemical in any sense of the word.

Beale, in *Todd and Bowman*, p. 134, gives the following summary of the arguments on this side:—

> "The facts of the case render the chemical view of successive oxidations untenable. There is no good reason for believing that starch as starch, sugar as sugar, or fat as fat, unites with oxygen in the body. The theory that several chemical com-

pounds must be produced between the starch, sugar, or fat, on the one hand, and the carbonic acid on the other, is merely a chemical hypothesis, for which, as yet, no very good grounds exist, since no one has produced these intermediate bodies by causing oxygen to unite directly with any of the above substances, and such intermediate products have not been satisfactorily traced in the animal body, while anatomical facts render it more probable that in the disintegration and removal of *all* textures, germinal matter is intimately concerned, and that instead of oxygen acting directly upon the materials of the texture, these are first taken up by germinal matter, which, in its turn, is destroyed, giving rise to the substances which are usually considered to result directly from the disintegration of *tissue.*"

Further, the chemical theory of burning in the blood for heat rests on Liebig's division of food into respiratory and plastic (or thermogene and dynamogene), represented by non-nitrogenous and introgenous substances. But this, like most of that chemist's physiological speculations, is now proved to be erroneous, chiefly by the demonstrations of Voit, that muscular work does not cause increased formation of urea, and by the well-known facts respecting the diet of bees, of cold-blooded animals, as well as those of tropical and arctic regions, and of carnivorous and herbivorous animals, all of which are in opposition to it; and, finally, by the direct experiments on themselves, of Fick and Wislicenus and Dr. Ed. Smith. The conclusion of Hermann on this subject is—

> "For the present it is impossible to point out any function for which the consumption of a particular kind of diet (as for example, nitrogenous), is directly requisite." (P. 198.)

Thus it would appear that all kinds of food contribute their quota simply to the making of blood, and the one blood is fit for all the functions. It may here seem inconsistent that we continually speak of oxidation ourselves, and accept the capacity for it as the measure of the nutritiveness of food, with the limitations given at p. 267. A full explanation of this apparent contradiction cannot be given here, for the reasons mentioned at p. 265. Suffice it to say with Fletcher, I believe that in the living state none of the so-called proximate principles exist as such, and the elements are in a totally different state of arrangement. It is only when they come out of this living state that they are found in the various forms of combination with or without oxygen in which we know them. Heat and mechanical motion are ultimately the outcome of all vital activity, and on the law of equivalence of force, in the body at rest heat is exactly equal to the amount of chemical change which food has undergone in its conversion into carbonic acid, water, and urea, as truly as if that had taken place directly in our laboratories. It must strike us as singular that Carpenter should still speak of sugar, fat, and alcohol, as being burnt in the blood, and used solely and directly in the production of heat. Both Carpenter and Bence Jones maintain that all sugar, the hepatic as well as that from the food, is burnt by the help of a ferment in the blood. Now, as every particle of starch is converted into sugar in the *primæ viæ*, and must enter the blood as sugar, if at all, the largest part of the food of millions in tropical countries must be consumed in the making of heat just where it is least required. The use of the word "ferment" here is inconsistent with the definition of an animal ferment given by physiologists, viz., that it produces certain changes, with or without taking up of water, but without oxidation—such as the conversion of starch into glucose by the salivary and pancreatic fluids, or of the glycogen of the liver into sugar by an unknown ferment or glycoplastic substance. Nevertheless, a ferment is by these chemical physiologists supposed to be the efficient agent in the oxidation of sugar down to carbonic acid and water. It is true this ferment has not yet been "insulated," a circumstance that greatly troubles the chemical soul of Bence Jones, as he thinks the discovery of it would put into our hands "the specific" for diabetes. (Op. cit., p. 70.)

In contradistinction to these views let us again quote from Beale respecting the destiny of the hepatic sugar—

"There are probably many compounds between the sugar which passes from the liver and the carbonic acid which is evolved from the lungs. This sugar may, under normal conditions, be taken up by the masses of germinal matter (cell-nuclei), existing in such great number in relation with the capillaries of the lungs, and the particles of which these cells consist may become resolved into carbonic acid among other substances, or the sugar may be taken up by the blood-corpuscles, and the matter of which these bodies are composed resolve into carbonic acid and other matters." —*On Kidney Diseases*, p. 263.

Thus a product of vital metamorphosis in one organ still possessing nutritive value is again converted into living matter, of which part is excreted and part returns to the blood. It is highly probable that a similar process has to be undergone by all nutritive substances which enter the blood directly, for they are incapable of serving as pabulum to the higher tissues, without prior conversion into blood, by means of certain special organs or parts.

Sharpey seems to hint at this in the following sentence: "Again, in the nutrition of a mass of tissue, the crude material may undergo preparation by the cells or nuclei that lie in the interstices of the structure." (P. 22.) But it is clearly announced by Beale in several places, as, for example, in the following quotations :

"It is probable that the pabulum required for the nutrition of the higher tissues is prepared and formed through the agency of germinal matter of less special endowments, such as that found in connexion with the capillary vessels ; and that the free germinal matter in the blood, representing that in the interior of the fully formed cell, itself in its turn grows at the expense of materials formed from other kinds of germinal matter, especially that in connexion with the intestinal mucous membrane."—Beale's *Todd and Bowman*, p. 116.

"In like manner it appears that nutrient materials in their crude state cannot be directly appropriated by the tissues of man, but must pass through several stages of preparation, undergoing conversion entirely into new substances which did not exist before, and which are peculiar to his organism alone. Even substances closely allied in composition to the tissues to be nourished, and in a state of solution, are not directly appropriated by the tissues; nor if injected into the blood would they be rendered by that fluid fit for this purpose. They must first be modified by various preliminary operations, taken up successively by two or three series of cells (masses of germinal matter), of course in a totally altered form, and not until then are compounds produced which are adapted for the nutrition of the tissues. If either of these successive processes be modified by an altered action of the cells, the pabulum is not properly prepared, and the textures suffer in nutrition."—Beale's *Todd and Bowman*, p. 152.

Thus, a great step has been made towards the principle that all pabulum enters, at once, as blood by the lacteals, or if absorbed unchanged is converted into blood somewhere else.

The agents of this conversion are only imperfectly known as yet, but most likely the liver and the lungs play the chief part. With respect to the liver we know that besides a considerable portion of the food-sugar, some of the peptones are conveyed to it, upon which it exercises an assimilating action. Carpenter says—

"For the blood of the portal vein, when examined during digestion, is found to contain a large proportion of an imperfect albumen, which appears to be the immediate product of the digestive operation; whilst in that which has passed through the liver, this is found to have given place to the proper albumen of the blood. Further, if white of egg mixed with water be injected into any of the systemic veins, distinct evidence of albumen is speedily traceable in the urine, showing that this substance has not been properly assimilated; but if the same fluid be injected into the portal system, no trace of its presence in the urine is found. So, again, when a solution of cane-sugar is injected into the general nervous system, this substance soon shows itself in the urinary excretion; but if the same injection be made into the portal vein, so that the sugar is obliged to pass through the liver, no such elimination of it takes place, as it then is converted into a form of sugar which is more readily eliminated by the respiratory process." (P. 363.)

In regard to the long series of products of the retrograde metamorphosis which still possess nutritive value in a descending scale, they are, in all probability, disposed of in like manner through the kidneys, skin and colon, by a purely vital process, whereby their residual amount of tensive force (potential energy—spannkraft) is utilised for the economy, in the form of a small material addition to the blood, while the great bulk of their substance passes out in the excreta.

Those substances, however, whose tensive force is exhausted, such as urea and carbonic acid, seem to be simply eliminated. We are now in a position to understand how nutritive matters directly absorbed, as instanced at p. 266, can support the system by conversion into blood in special organs, even whilst the process of digestion is suspended. But we see also that this power is limited, and that if these substances are taken up in excess of a certain amount, they are eliminated unchanged. We know this is the case with alcohol, and it is stated by Bence Jones and others that sugar injected into the rectum, or sweet fruits eaten in great quantity, will cause a temporary diabetes. The capability of some organic matters to act partially as pabulum by conversion into blood, and partially as stimulus, is thus explained. This convertibility into blood will account for the fact that such bodies cannot be potentised by dilution. Alcohol in natural combination, the vegetable acids, and sugar, with some other substances, belong to this category.

Similar principles apply also to the inorganic constituents which can act both as pabulum and stimuli, but there is a difference here, for this class cannot be looked on as food in the sense of contributing force; they are, in fact, already, in general, oxidated to the full amount, or, if not, they must be chemically dissolved by a spoliative process, even though they afterwards need reduction. For example, if *Iron* be given in the metallic form, it must first be converted into a soluble salt by the secretions of the stomach, then, when converted into blood by a vital process, it is again reduced, for, according to Mulder, it exists in the metallic state in the hæmoglobin. This involves a loss of active force for the time being, though it is set free again in the oxidation which accompanies the destruction of the red corpuscles. Now, as long as the *Iron* or other inorganic constituents enter with the food, and become converted into blood, they cause no symptoms as specific stimuli. They may even be taken in small excess, and be eliminated without causing any symptom—particularly common salt and the phosphates,—passing through the circulation most probably in some loose combination with albumen. But as our provings show, when given in great dilution and on an empty stomach, these same cause very peculiar and profound effects as specific stimuli. Why they should not be decomposed like the force-yielding organic compounds is easy enough to see, but why they are not rendered inert, like the much larger quantities, is not yet explained, but it favours the theory of their action by nervous impressions and sympathy rather than absorption. As above said, the inorganic constituents, like the organic elements of nutriment, produce no symptoms as specific stimuli when assimilated as pabulum; in fact, they are passive agents in the vital process of first being converted into blood, and then by another vital process selected by the metabolic, and formed by the plastic power of living matter into the tissues where they serve their purpose. It is idle, therefore, in speaking of them as medicines, to attribute a vague and mysterious significance to the presence of the inorganic materials in any tissue, and imagine that they must necessarily have some relation as specific stimuli to the purely vital processes involved in their deposition and absorption. Because fluorine is found in the enamel of the teeth, potash and iron in the corpuscles, while soda is found in the serum of the blood, lime in the bones, &c., it does not follow that these substances have any specific influence in the formation of these parts any more than that albumen gelatin and fibrin in the food can directly form the several tissues in which they predominate. The most that we can say is, on the simple ground of common sense, that they are essential to life, growth, and health, because no part can be nourished without an adequate supply of its material pabulum. Here, as elsewhere, specific powers can only be discovered by experiment on the concrete, living, healthy organism, and absolutely nothing can be predicted, in this sense, from a knowledge of the chemical relations of the separate elements. The question now is, what are the facts respecting any presumed excess or deficiency of these elements in disease? As regards the organic constituents of the food there is no question but that, for example, deficiency of vegetable acids is the cause of scurvy, as excess of albuminous food is of gout. But can any disease be truly said to be caused by the deficiency of any of the inorganic constituents, except in so far as there is a deficiency of food in its totality? Apparently none, or, at least, this has not been demonstrated of any one, though the deficiency of certain elements after disease has made some progress is a fact which is not questioned. If, then, the quantity of these is ample at the commencement of the disease, and in the course of it they are excreted in excess, that is enough to show that the mere giving of them as pabulum can of itself be of no possible use remedially. In mollities ossium, for example, it has been found, according to Beale and others, that the quantity of earthy phosphates in the urine is considerably increased so as to equal or even exceed that of the alkaline phosphates, though in health the latter amount to ten or fifteen times as much as the earthy phosphates. (Beale, *On Kidney Diseases*, p. 217.) Here the disease did not consist in a want of the phosphates furnished, but in a defect of the vital process whose function it is to assimilate them. So what earthly benefit can we expect from giving more of them as pabulum when the organism is rejecting them? This argument applies to the whole class of inorganic constituents. But the practical question still remains. Supposing in a disease like rickets or chlorosis, the quantity of lime or iron having sunk below the natural amount, and then by the influence of time or some curative agency the disease should stop, and a tendency to recovery set in, will the common food possess a sufficient surplus to repair the loss, without a special addition of them to the food? If we review the list of inorganic constituents, we shall find that in the great majority of diseases in which a disproportionate drain of them takes place the ordinary surplus in the food is sufficient to replace them. For example, sulphur we know is an integral part of albumen, the most important article of diet, and it can no more be deficient than the other elements which are usually said to be proper to the organic constituents. As a medicine, therefore, we may always look upon it as a specific stimulus, and not as a pabulum. With respect to *Phosphorus* and the earthy phosphates, the question is a little more complicated. The sources of the phosphates are extensive, more being contained in the food of carnivorous than of herbivorous animals, nevertheless wheat and the other cerealia contain a considerable quantity of the alkaline phosphates. The quantity of phosphoric acid excreted by the urine in twenty-four hours is estimated at forty-eight to seventy-nine grains, or 100 to 120 grains of phosphatic salts. These amounts vary, however, with the quantity of food taken. The total amount, according to Beale, may be accounted for in the diet thus:—fourteen ounces of bread, twelve ounces of meat, half a pound of potatoes, and half a pint of milk, would contain about 130 grains of alkaline phosphates. (Op. cit. p. 160.)

So from these data it is evident that, unless a quantity of phosphates equal to the whole of that daily ingested requires to be excreted and taken up anew from without, there must exist in ordinary diet a large excess from which to supply any temporary deficiency should such arise from disease.

In different diseases the amount of phosphates which passes off by the urine has not yet been accurately ascertained in proportion to that ingested with the food, but it is a favourite theory with many that the excretion of the phosphates is in proportion to the work done by the nervous system, and hence that it is augmented in diseases involving great cerebral activity. Consequently it is supposed that *Phosphorus* and its salts prove curative in such diseases by directly building up the damaged tissues.

However, the data upon which this theory was based have been re-examined by Beale, and he comes to the conclusion that they are insufficient to bear out the statement as a matter of fact, and, in short, that it is not proved that the excretion of phosphates is in proportion to the work done by the nervous system. (*On Kidney Diseases*, p. 207.) Even that incarnate chemical physiologist, Bence Jones, gives up the theories of cure by direct chemical action of the phosphates.

"That *Phosphorus* assists in the formation of protagon, as *Iron* does in the formation of blood-globules, is far from any direct proof. Far less probability exists that *Phosphoric acid*, or the salts of *Phosphoric acid*—as *Phosphate of Iron* and *Strychnia*—can be so decomposed, and the elements recombined in the body that the *Phosphorus* may promote directly the nutrition of the brain or spinal cord. Whatever good these medicines may do otherwise, they can hardly be of use in helping the formation of protagon, either in the nervous substance or in the blood globules. *Phosphorus*, or *Phosphorous acid*, can be shown by direct experiments (see Lecture ix, pp. 174 and 175) to be oxidized into *Phosphoric acid;* and hence the *Phosphoric acid* of our medicines, though it may leave the *Iron* or *Strychnia* in great part to combine with soda and other alkalies, and may keep continually passing into a more or less basic salt, yet will never lose its oxygen by reduction, never be capable of combining with carbon and hydrogen to form that phosphorized oil which exists in the nervous substance." (P. 296.)

No one will question the competency of our author to demonstrate the impotency of mere chemistry to explain the phenomena of life, but the difficulties are entirely of his own raising. For on the vitalist theory, if the phosphates are required as pabulum, they must, like everything else, be converted into blood by passing through the living state, and when in this state reduction may take place with as much facility as any other transformation. In fact, as we have before said, this actually takes place with the iron, and the formation of the hæmoglobin is a synthetic process. So far the evidence goes to show that these inorganic constituents have no power of specifically curing the disease in which a deficiency of them occurs. But how far they can really act as pabulum when required we shall now examine in the case of iron.

I have not met with any calculation of the amount of iron contained in the food, but it may be taken for granted that it is in all cases sufficient for the natural wants of the system, with probably a small surplus which is constantly excreted. Now, we know that in accidental losses of blood during health the deficiency of corpuscles with their iron is speedily repaired from the additional quantity of ordinary food taken without any surplus *Iron* being given medicinally. Why, therefore, should not the same take place in chloro-anæmia? Supposing the morbid state of the blood-forming function to be removed by dynamic means, whence the need of additional *Iron* as pabulum in this case any more than in the other? To this I have seen no satisfactory answer. But till it is answered it is evident that we cannot justify the medicinal use of *Iron* as pabulum. The following reflections occur to me as likely to meet the difficulty. As in health the quantity of food assimilated contains probably little more than sufficient iron to supply the waste of the blood-corpuscles, it follows that, to repair a disproportionate loss of blood-corpuscles, more food must be assimilated than is required by the waste of the system, in order to extract the due amount of iron from it. What, then, becomes of the surplus food? The answer to this may be found in considering the process of fattening animals. When overplus of nutriment is given for this purpose, there are, according to Hermann, three ways in which the surplus amount actually absorbed may be disposed of:

> "First, it may be simply taken up and retained in the organism; secondly, it may be quickly oxidized and expelled; thirdly, it may be split up (gespalten), one part may be oxidized and expelled, and another part, rich in potential energy (spannkraftreich), retained. Now, experience has shown that in all cases of superfluous nourishment, the third of the above processes always takes place. The body-weight, from accumulation of fat, increases, while, at the same time, the amount of oxidation products is augmented, more especially urea, when the food has been rich in nitrogen."—*Hermann*, p. 184.

Now, apply this to bloodletting, or accidental hæmorrhage in a healthy person. The immediate effect is to throw the body into a state resembling starvation, and in which the process of absorption becomes very active; the watery and transudative fluids in the tissues are at once absorbed into the blood, and speedily restore its bulk. Then, as before said at p. 266, the sustenance of the body from its own tissues commences, and no doubt the iron contained in the voluntary muscles will be partially appropriated for the benefit of the more important organic elements, and thus the blood-corpuscles will begin to be restored even before the means of replacement by the food are afforded. Then, from the accumulated irritability consequent upon privation of an accustomed stimulus, the appetite and digestive powers are actually increased, just as the secondary action of cold proves a muscular and nervine stimulant. The increased quantity of food digested thus furnishes the necessary iron, and the surplus of albuminates and carbo-hydrates (after repairing the loss of tissue taken at first for the blood) is split up into partly increased waste excreted as urea, and partly into substances rich in potential energy, stored up as fat. The effect, therefore, of moderate loss of blood in healthy persons is, within certain limits, a tonic and fattening one, and as such it has been recognised; for the same reason it is also condemned as a radical cure of plethora and obesity.

In chloro-anæmia things are widely different. Here the loss of iron and corpuscles took place from disease of the blood-making organs which failed to assimilate the iron of the food. Therefore it must have been gradually draining away during the course of the disease, so that all other parts naturally containing iron must share in the deficiency. There is, consequently, no store to fall back upon, in case the assimilative powers should be suddenly restored by any salutary influence. Moreover, the anæmia did not come on suddenly, so there is no increased absorption, and no tonic influence upon the appetite and digestion to be looked for; on the contrary, the appetite, as we know, is generally poor, especially for meat, which is the thing most required, and the digestive powers are feeble. At the same time, there is little capacity for disposing of surplus nutriment on account of the general failure of secondary assimilation, and the power of waste—the last being also hindered by the very deficiency of corpuscles, which is the main point; likewise it is to be noticed that chlorotic patients are tolerably fat. Therefore under a specific which could at once remove the disease of the blood-forming process, the restoration to complete health must be very slow, unless an increased proportion of *Iron* is furnished as pabulum.*

The same principles apply no doubt to other large inorganic constituents, except probably sulphur, and thus they may have a beneficial action as pabulum quite independently of their influence as specific stimuli. But it is plain that this disproportion between the demand for particular inorganic elements and the supply contained in the food must occur but seldom. It must chiefly be observed in the periods of youth and adolescence, for then the growth of individual parts, if in the least degree unequal, taxes the digestive powers to consume food to a certain extent in excess as above explained. If these fail to respond to the increased demand upon them, the nutrition of some part lags behind and can probably only with difficulty be brought up without the aid of some special pabulum. Accordingly the earthy phosphates may be given with advantage in rickets and diseases of backward growth, when at the same time hygienic influences and specific medicines are producing a favorable change in the disordered processes. Dr. W.

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* The proof of this is given by experiments of feeding with incomplete combinations of the nutritive principles. It has been found that although life may be maintained upon a diet of albuminates alone, without the fats and carbo-hydrates, yet it can only be by the consumption of an immensely disproportionate quantity of albuminates, because to furnish the necessary amount of the two other constituents a large proportion of the nitrogenous principles must be consumed to waste, as is shown by the great increase of the urea in such a diet. Thus a much greater weight of food is necessary if restricted to albuminates alone, than if the diet consists of the above three great divisions mixed in due proportion.—See *Hermann*, pp. 170, 183.

Carpenter also gives a calculation, at p. 326, of the much larger quantity of bread used as the sole diet it requires to furnish the needful amount of nitrogen, than if a small quantity of flesh or cheese be added to the daily food.

Budd has given cases showing the beneficial use of calcareous salts in rickets, but he gave them in addition to other treatment (*Braithwaite*, vol. xxxvi, p. 34). It is also probable that in adults these salts may be of use during pregnancy and lactation, and in cases of ulceration with excessive drain upon the system by suppuration, and also that *Iron* may be useful in some cases of the anæmia of adult life. But these instances, in all likelihood, comprise the whole of those in which the inorganic constituents may be given as pabulum with advantage; the recommendation of chemical food in many other diseases has, I think, no better foundation than the advertisements of puffing chemists and wine merchants.

With respect to the seat of the dynamic action of *Iron* on the blood, little can be said, as the data are still wanting from which a positive opinion may be formed. I can find no comparative analysis of the white and red corpuscles. It is stated in a general way that the chyle and lymph and the white corpuscles contain iron, but whether the latter contain as much as the red is not positively shown. The white corpuscles are now very generally looked on as the origin of the red; but in what way the transformation takes place, whether while floating free in the plasma, or by the agency of the systemic capillaries, or those of the spleen, liver, or lungs is not known, nor how long the process takes, nor the duration of existence of each corpuscle. It is supposed that a considerable formation of red corpuscles takes place in the spleen, in which numerous red corpuscles of a somewhat different appearance are found, and which are presumed to be the newly formed ones. But in the spleen, as well as in the liver, a destruction of red corpuscles also takes place to a great extent. On analysis, the substance of the spleen contains besides a variety of oxidative products, numerous pigments, a ferruginous albuminate, and, on the whole, a remarkable number of iron compounds. The blood of the splenic vein contains 1 white corpuscle to 70 red; whereas the ordinary proportion is 1 to 300; so probably besides new formation of white corpuscles formerly mentioned, transformation of them into red and destruction of old red corpuscles take place in this organ. Now there are some facts pointing to the specific action of *Iron* on the spleen.

"It is stated by Celsus that animals which were in the habit of drinking the water in which blacksmiths cooled the red-hot iron have very small spleens; hence, patients with infarctions of the spleen were made to drink this water after their meals."—Hempel, *Materia Medica.*

"It deserves to be noticed that, in animals to whom *Sulphate of Iron* had been given, Weinhold found the spleen smaller and firmer than usual."—Pereira, p. 193.

"I regard *Iron* as a specific," says Cruveilhier, "in hypertrophy of the spleen or chronic splenitis, whether primitive or consecutive to intermittent fevers." And again, "By the aid of *Iron* I have obtained the complete resolution of enlargements of the spleen, which have occupied half or even two thirds of the abdomen."—Pereira, p. 193.

Pereira goes on to ask the question, "Is not *Iron* useful in these cases by removing existing anæmia? . In disease of the spleen, accompanied with enlargement of this organ, but unattended with anæmia, I have found it fail to give relief."—*Ibid.*

From these we may fairly conclude with Dr. Altschul that the remedial action of *Iron* in anæmia may be partly explained by its homœopathic specific action on the spleen. But what the intimate nature the change in the red corpuscles may be, and whether, as before said, it is confined to the spleen, is not determined, and I cannot offer any positive theory as was done in the case of *Cinchona.* But these uncertainties do not affect the fact which has been before insisted on, that *Iron* has an idiopathic specific influence on the blood-forming process.

It is on this, I believe, that the great bulk of the cures of chlorosis and anæmia in both schools of medicine depend, and are, therefore, therapeutic specific cures, not merely the working of *Iron* as a pabulum, nor its primary physiological action as a tonic. Doubts on this subject have been expressed even in the homœopathic school by Lobethal and others who have been disposed to regard its action as antipathic. Rummel has stated—

"I have seen little good from *Iron* in small doses in chlorosis; and the same has happened to many other homœopaths, while yet many phenomena declare the homœopathic relationship of this medicine to chlorosis. On the other hand, ferruginous mineral waters often do much good to it when they are not taken too often and too long, in which case they aggravate it."

On consulting Rückert's synopsis we find that the majority of homœopathic practitioners give from one sixteenth to one grain of the *Carbonate* or *Sulphate of iron;* Werber, Frank, and Lobethal recommended several grains of metallic iron or even ten to twenty drops of the tincture of the acetate several times a day. More recently my friend and colleague, Dr. Hughes, has attributed the whole beneficial use of *Iron* to its action as pabulum, and denies its homœopathicity to anæmia altogether; that it is, in fact, homœopathic only to plethora. Many others in the homœopathic school have felt a difficulty with respect to *Iron,* and it has occurred to nearly all of us to see patients little, if at all, improved by infinitesimal doses of *Iron* recover rapidly under the empirical administration of it by the ordinary routinists or at mineral watering-places. Nevertheless Trinks, in the face of all this, roundly asserts that

"It is the true homœopathic remedy in all forms of chlorosis, whether with or without amenorrhœa, with the catamenia too scanty or too copious, even bordering on metrorrhagia."—*Handbuch,* i, p. 745.

How are we to reconcile these discrepancies? I think this has been already done in the foregoing pages by distinguishing the separate spheres of action which may be affected quite independently of each other, whether simultaneously or in succession. I cannot agree with Dr. Hughes that the anæmia and debility produced in the experiments with *Iron* were secondary to its tonic and stimulating action, nor that they depended on its spoliative action, because they commenced when the digestion was in full vigour, and the doses were too small to have exercised any spoliative action. It is true there appears to be a difficulty in understanding how, with a greatly increased appetite and digestion and apparent formation of red blood by the tonic action on the stomach, there should soon have begun a destructive process leading to hydræmia and debility. Probably ere long we shall be able to explain this when the process of blood formation shall be better understood, but in the mean time there is no doubt of the fact. Nor is the circumstance that the appearance of the blood was not decidedly changed at all incompatible with the incipient stage of blood disorder.

"Becquerel and Rodier give the analysis of two cases where girls had all the symptoms of chlorosis (including the *bruit de diable* in the carotids), and yet there was no diminution of the corpuscles, nor of the solid constituents generally; the corpuscles were 123 and 136 per 1000, and among the ash 0·492 and 0·516 of *Iron*."—*Simon*, i, p. 315.

Further, while we grant that *Iron* in pabulum quantity is essential for the cure of certain cases, thus explaining the failure of the infinitesimal dose to cure all that class, yet if we can bring forward instances of cure by the infinitesimal dose, that will prove that another class of cases exists in which it could not possibly have been either a food or a tonic. Such cases are offered in considerable abundance in homœopathic literature. Examples are reported by Stapf, Hofrichter, and Russell, and I can myself testify to its utility in doses far below the mark of a tonic or a food.

"In a case reported by Dr. Eidherr, in the Leopoldstadt Hospital (*British Journal*, January, p. 51, 1869), the patient was chlorotic, and had been debilitated by an attack of pneumonia (cured by *Phos.*), so that the former poverty of blood was so much increased that œdema of the face and extremities, swelling of the spleen, and loud blood-murmurs came on. The appetite did not return after the pneumonia. *China* had no effect; *Ferrum* 3 was given, but was followed by fainting, vertigo, dimness of vision, gastralgia, and vomiting. *Nat. mur.* 3 was then given, when the appetite returned, and all these symptoms gradually declined, till there was only a condition of paleness of the face and mucous membranes, swelling of the spleen, want of power in the muscles, and blood-murmurs remaining. *Ferrum* 3 was again given, and everything went on to complete recovery."

Here were the very symptoms usually thought to require *Iron* as pabulum, and yet this patient recovered under a purely dynamic and specific dose, too small for food or for any primary tonic action. The reason is that the appetite and digestion had returned, and there was only wanting the specific to cause the blood-making process to be set right, for there was now enough *Iron* got out of the food.

The conclusion I come to is that in the majority of cases *Iron* is a therapeutic specific in anæmia and chlorosis, and in certain others it is also a food, and the reason why the homœopathic school have failed in some cases to equal the routinists is the overlooking the pabulum action, and also from the excessive reduction of the dose, even as a specific medicine which has been the bane of homœopathy here as elsewhere. By keeping these in mind I believe the homœopathic school will obtain all the really curative action of *Iron*, and be guarded from the abuse of it consequent upon the prevailing theory that it cures permanently by its primary tonic and stimulating action, or by its power as a pabulum of unconditionally adding to the number of red corpuscles directly. Bence Jones, indeed, expresses the opinion that we have an absolute control over the production of hæmatin, "and that the process may be watched and stopped when a sufficiency of red colouring matter is produced." This we know is totally inconsistent with the facts, and that in fact on the healthy body it produces precisely the opposite state. Hence instead of being unconditionally a health- or strength-giving substance, or at the least innocuous, it is a powerful weapon for evil when abused.

This has been recognised by Trousseau, who, after bringing the more extensive use of it into fashion, lamented the abuse to which it had been pushed, and 'openly reproaches' himself with the fatal effects of it seen in his own practice. In particular he cites two cases where the long-continued use of it in stimulating doses was the cause of hæmoptysis followed by speedily fatal phthisis.—i, p. 19.

At the same time it will be noticed that nearly all of those in the homœopathic school who speak confidently of the utility of *Iron* in anæmia are accustomed to use comparatively large doses.

Trinks advises one or more drops of the pure tincture of the acetate or muriate, or the first decimal dilution. Jousset gives the *Ferrum metallicum*, gradually increased up to one grain; Kafka [*] gives various preparations of *Iron* in half-grain doses of the first decimal trit., increasing the dose every four days. A similar practice obtains in this country, and it is my opinion that these doses are the best for the dynamic specific action in the anæmic and chlorotic blood disorders, though higher dilutions may be advisable for nerve disorders.

These doses have been arrived at by sheer experience in practice, and without any distinct idea of the separation between the stimulus and pabulum actions. But when once we have distinctly recognised this we may attain to still greater precision as to dose and mode of administration. It must be remembered that chlorosis is a very complex disease depending upon a great variety of different morbid states, any of which may predominate in different cases or at different times in the same case. Therefore, a great variety of remedies may be required. In a considerable number *Iron* is specific to the purely dynamic disorder, while at the same time it may be requisite as pabulum, but it is quite conceivable, and must, indeed, often happen that it is required as pabulum whilst it is unsuited to the dynamic disorder. This is scarcely recognised by the authorities above quoted, but several of our body in this country, as Drs. Madden, Hughes, and myself have done so, and acted upon it practically, by giving it as pabulum with the meals, while another medicine is taken on an empty stomach in the same day. This practice is justified by the principle laid down at p. 293, that when any substance is assimilated as pabulum it can have no action as specific stimulus, and also by that at p. 275, viz., that whatever is intended for food is best taken at meals.

This, in fact, is pretty much the ordinary practice. Trousseau advises the treatment to be commenced by giving the powder of iron filings or *Ferrum redactum*, or *Crocus martis*, or *Hydrate of the Peroxide* in doses of one to three grains twice a day at the commencement of the two principal meals, and in the *Berliner Klinische Wochenschrift*, in June, 1866, Prof. Lebert, of Breslau, recommends *Iron* in small doses at meals; and justifies the dose by remarking that the iron mineral waters, whose utility is undeniable, contain on an average only one third to one half grain of some salt of iron—generally the carbonate of the protoxide—in sixteen ounces of water. So that by swallowing as much as the patient can of them, the maximum quantity of iron ingested in a day can hardly reach one to two grains; though small, greater benefit is derived from those waters than from the much larger doses of *Iron* usually given at home.

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[*] *Hom. Therapie.*, p. 698.

Various expedients have been suggested for supplying the *Iron* in a more easily assimilable form; in fact, making it more like food. It has been given in milk, or baked in bread.

Dr. B. Jones recommends hæmatin (though hitherto it has not been found easy to prepare) as more likely to be assimilated, for a considerable quantity of *Iron* escapes with the fæces after the ordinary preparations, just as ivory shavings, powdered bone, and *Cod-liver oil* are more easily assimilated than the cruder, calcareous, and fatty matters. (P. 144.)

Should any of these turn out to possess any practical value, we ought to adopt it. With respect to the quantity required as pabulum from what has been before said at p. 255, all that is required to be assimilated is probably under two grains a day in the quickest practicable cure of a confirmed case of chlorosis. I will now conclude this subject with a case from my own practice illustrative of this plan of double medication:

"Miss A. B—, æt. 19.—Since puberty at sixteen had been pale; but for the last two years chlorotic. She had been under the ordinary medical treatment since that time, and had been taking *Iron* off and on, and in various preparations almost ever since, as well as various tonics and stomachics, &c.

*Present symptoms.*—Her complexion is pale and chlorotic, worse in the evening, though there is seldom any colour even under momentary excitement. She has what she terms indigestion. An hour after meals she swells up very much, and has to loosen her dress; then, also, begins a severe grasping pain at the epigastrium, which is tender to the touch. The pain lasts for hours, and then her face becomes quite ghastly; the pain is relieved by lying down, and is worse after animal food or wine. At times she has sudden pains in the loins, hindering standing or walking. The bowels are costive, and she has no appetite. The catamenia irregular, sometimes absent for months, sometimes too frequent, though pale. She is extremely weak and languid and easily fatigued, and cannot walk half a mile. Excessive beating in the heart from exertion, so that she must stop midway in going upstairs. *Bruit de diable* in the carotids. Besides the chlorosis, I considered there was here round ulcer of the stomach. The patient was, therefore, ordered to lie down the greater part of the day, and to have any plain unstimulating diet, without animal food. In consequence of reading Dr. Edward Blake's excellent observations on *Nitrate of Uranium*, in the twenty-sixth volume of this Journal, I gave that medicine in the dose of one grain of the 1st cent. trituration three times a day for ten days. The symptoms were then all ameliorated, and there had been intervals of a day free from pain. The medicine was continued, and in ten days more there had been no pain since the previous visit, except once after fish. The pallor, want of appetite continued, and the catamenia was absent. *Pulsatilla* three times a day. In a fortnight she reported that she had had no pain, though fish and fowl and soup had been eaten, and she had remained sitting up after meals. The appetite is still small, and there is little improvement in the complexion; but the catamenia came on at the right time and without pain, though pale in colour. Judging, now, that the ulcer was healed, and the digestion improving, and the uterine or ovarian disorder so far removed that *Iron* could be assimilated as pabulum in due quantity, I gave two grains of the *Lactate* at the beginning of dinner daily, continuing, at the same time, a dose of *Pulsatilla* 1, night and morning. In three weeks the improvement was very great in the complexion and strength, and the appetite for all meats had returned, and no pain or inconvenience was felt after any meal. The improvement continued uninterruptedly till perfect health was restored.

In the foregoing pages I think it has been shown that the tonic-analeptic theory affords no explanation of the action of specifics.

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# HIPPOPATHOLOGY AND PRACTICE: COUGH AND ITS TREATMENT.

By W. C. Lord, F.R.P.S. and M.R.C.V.S.

*(Continued from p. 75.)*

In the last number of the *British Journal* I endeavoured to describe the pathology and diagnostic symptoms of the various kinds of cough to which the horse is subject; it was then my intention to conclude the article by a practical examination of the relative value and local action of the principal drugs used by others in the treatment of cough. It has since then, however, struck me that were I to do so I would confuse the reader, and do away with the object for which this article has been penned, namely, to assist medical men (who have no homœopathic veterinary surgeon near them) to treat their own horses for coughs. I shall, therefore, confine myself to as few remedies as it is possible to work with in a satisfactory manner, but must again impress upon the reader the necessity of correctly diagnosing the seat of cough, as upon that as well as its peculiar character depends the selection of the remedy and a speedy cure.

### *Aconitum napellus.*

*Aconite* may be used in the primary stage of all inflammatory coughs, whether seated in the mucous membrane or pulmonary tissue. Its principal indication in the former is dryness of the membrane. In the latter, increased and full or strong pulse, with dyspnœa and other indications already given in the diagnostic symptoms of pulmonary coughs.

The *Aconite* cough is short, dry, frequent, and generally spasmodic. As soon as the inflammatory symptoms subside, which is denoted by increased mucus or muco-purulent secretion, the *Aconite* should be either discontinued or given in alternation with the drug specifically adapted to the nature and seat of cough under treatment.

In human medicine this drug holds a high position as a remedy for coughs, but, according to my experience, it can only be regarded as a useful auxiliary in veterinary practice. From its extensive range of action, *Aconite* may be useful in those recent, hard, dry coughs whose seat it may be difficult to diagnose.

*Dose and frequency of administration.*—℞ *Aconite tinct.*, $2^x$, gtt. x, aquæ ℥ij, quinquies die.

### *Apis mellifica.*

*Apis* acts especially on the lining membrane of the larynx, and seems to control a state of inflammation in it even greater than that to which *Belladonna* is applicable—one in which I infer from the symptoms that submucous infiltration has taken place. The cough is suffocative, painful, and not so hard as the *Belladonna* cough; but there is usually more dyspnœa, which leads me to diagnose a thickening of the membrane, probably from effusion, which *Apis* speedily removes. It has also, in my hands, quickly removed a painful, hoarse cough, accompanied by a clear ropy discharge from the mouth, similar to the symptoms indicating *Mercurius,* which appears to me to be its chief analogue as far as the action of both on the larynx is concerned. *Apis* has also been used by me, with considerable success, in some cases to which *Belladonna* appeared to be homœopathic, but yet failed in removing the cough, as in the following illustrations:

Troop-horse, C. D., No. 20.—October 21st.—Laryngo-pharyngeal cough. Gave *Bell. tinct.* four times daily for four days without any improvement.

25th.—Prescribed *Apis* 1, gtt. x, quater die.

26th.—Cough completely removed, and the horse was returned for duty next day.

C. D., No. 5.—November 28th.—Laryngeal cough. Gave *Bell.* for six days without any improvement.

December 4th.—Frequent fits of coughing, readily produced by the slightest pressure on the larynx. Prescribed *Apis* 1, gtt. x, quater die.

5th.—No cough even when pressed on the larynx, and next day she was sent to work.

*Dose and frequency of administration.*—℞ *Apis tinct.* 1, gtt. x, aquæ ℥ij, quater die.

## *Arsenicum album.*

This drug acts on the mucous membrane lining the whole of the respiratory tract. It is chiefly indicated in those coughs which remain after influenza or catarrh of an asthenic type, accompanied by an unhealthy appearance of the coat. The cough is usually dry, but with watery discharge from the nostrils, and excited by exposure to cold air, or drinking cold water. It would seem to be dependent on loss of power in the organic nervous system, giving rise to a thin acrid secretion from the respiratory mucous membrane, to cure which it only requires that the vaso-motor system be raised to a healthy standard by the action of *Arsenicum.* On referring to my pathology of "broken wind" in the last number of this Journal, the reader will understand why *Arsenicum* has been so successful in the hands of M. Hew, of Chaumont, in curing this disease. This gentleman has lately published a report of ten cases of broken wind cured by *Arsenicum.* He gave it to the extent of fifteen grains daily, and at the end of a fortnight not only the cough but all other symptoms had disappeared. Chronic cough with thick wind is also one for which *Arsenicum* is peculiarly suitable; but in these case I would recommend the *Liquor arsenicalis* in thirty drop doses.

*Ordinary dose and frequency of administration.*—℞ *Arsenicum* dil. $2^x$, gtt. x, aquæ ℥ij, quinquies die.

### *Belladonna.*

The chief sphere of action of this drug, as a cough medicine, is the upper portion of the air-passages, including the pharynx, fauces, and larynx, as well as the neighbouring glands. I have never witnessed any beneficial effects from *Belladonna* in bronchial coughs of a sthenic character, but in those low, feeble, painful coughs having their seats in the bronchial membrane, and accompanied by fever of an asthenic type, I have used *Belladonna* in alternation with *Bryony* most successfully, as in the following case:

C. D., No. 114.—February 20th.—Admitted to hospital for typhoid fever, with pulmonary and hepatic complication. Prescribed *Nux* $1^x$, gtt. x, q. q. h. 4 ta.

21st.—Breath offensive; cough frequent, long, feeble, and painful, hanging in the air-passages, if I may use the expression. Mucous râle could be heard in the bronchi, and percussion over the lung at once produced the cough in an aggravated form. The respiration was short and quick; pulse weak; extremities cold. Prescribed *Bell.* $1^x$, *Bry.* $\phi$, āā, gtt. x, 2 da., q. q. h, alt.

22nd.—Cough much less frequent and not so painful. Continue same remedies, at longer intervals.

23rd.—Cough removed, and respiration normal.

24th.—Convalescent. No more medicine given.

In this case the cough was a mere effect of a local determination of typhoid fever which the *Belladonna* speedily removed, but had the fever been of a sthenic type, I believe no such result would be here recorded.

From the well-known action of this drug on the fifth and eighth pair of nerves, it is homœopathic to those coughs of a hard spasmodic character, whether proceeding from dentition or from derangements in the pneumogastric nerve. In laryngeal coughs with a dry state of the membrane, *Belladonna* is principally indicated, and if it is unaccompanied by nasal discharge we may safely prognosticate a speedy cure, of which I shall give a few illustrations:

F. 14, Royal Horse Guards.—April 19th.—Laryngeal cough with sore throat. ℞ *Bell.* $\phi$, gtt. x, quater die.

31st.—Cured.

C. D., No. 171.—May 29th.—Similar symptoms and treatment.

31st.—Cured.

C. D., No. 263.—June 17th.—Laryngeal cough, but no nasal discharge. ℞ *Bell.* $\phi$, gtt. x, quater die.

20th.—Cured.

C. D., No. 294.—June 29.—Same symptoms and treatment as the last case.

30th.—Cured.

C. D., No. 18.—July 27th.—Laryngeal cough with soreness of the throat, but no nasal discharge. ℞ *Bell.* $1^x$, gtt. x, quater die.

28th.—Cured.

C. D., No. 318.—July 27th.—Similar symptoms and treatment as last case.

28th.—Cured.

C. D., No. 66.—October 1st.—Laryngeal cough in paroxysms, especially on the slightest exertion, or on pressure moderately applied to the larynx, but no sore throat or any nasal discharge. ℞ *Bell.* $1^x$, gtt. x, quater die.

2nd.—Cured.

F. 32, 9th Royal Lancers.—October 5th.—Similar symptoms and treatment as the last case.

7th.—Cured.

C. D., No. 152.—December 30th.—Laryngeal cough, loud, dry, frequent, and paroxysmal. ℞ *Bell.* $1^x$, gtt. x, quinquies die.

January 2nd.—Cured.

C. D., No. 51.—January 16th.—Similar symptoms and treatment as the last case.

19th.—Cured.

C. D., No. 138.—February 15th.—Similar symptoms and treatment as No. 152.

16th.—Cured.

In veterinary homœopathic practice we find that *Belladonna* is the most valuable of all cough medicines, because that nearly three fourths of the equine coughs are laryngeal, but in man, I believe, about the same proportion would be bronchial.

*Dose and frequency of administration.*—℞ *Bell.* $1^{x}$, gtt. x, aquæ ℥ij, quater vel quinquies die.

## *Bryonia.*

*Bryony* is a very valuable cough medicine, but the state for which it is applicable has not, according to my experience, been so well explained by any author as by Dr. Hughes in his *Pharmacodynamics.* Its sphere of action as regards coughs is the larynx, trachea, and large bronchi, but it has little or no effect on a cough having its seat in the small tubes. It does not appear to me to be applicable to an active state of inflammation except when that occurs in the parenchymatous tissue; but to one of irritability or subacute inflammation producing, according to Jahr, "continued dry cough, especially early in the morning." The *Bryony* cough, although dry, is usually accompanied by a rattle in the throat or some part of the trachea. This rattle is not such as ordinary mucus would produce, but conveys the idea that plastic lymph has been thrown out, or mucus of a tenacious character. Pressure on the part of the trachea where this râle is heard immediately produces the cough, as does also exposure to cold air or exercise. In those coughs which prove a sequel to some active disease in the air-passages which has left the membrane in an irritable state, giving rise to cough, when the horse is first brought out of the stable, *Bryony* will be found a most useful remedy; but when any soreness of the throat is present it must yield in value to *Belladonna.* Illustrations:

C. 20, 9th Royal Lancers.—April 9th.—Admitted for catarrh, with the ordinary symptoms, which with the exception of cough were removed by *Belladonna.*

14th.—Cough troublesome, attended by a rattling sound in the trachea and right bronchi (large tubes). ℞ *Bryonia alba* φ, gtt. x, quater die.

17th.—Cough quite removed.

C. D., No. 27.—June 29th.—Admitted for influenza, all the symptoms of which, except the cough, yielded to *Bell.* and *Rumex.*

July 6th.—Cough frequent and caused by inflammation or irritation about the bifurcation of the trachea. ℞ *Bryonia* ϕ, gtt. x, quater die.

7th.—Cough quite removed, and no return, but as the animal was weak I did not discharge it from hospital until the 10th instant.

F. 31, Royal Dragoons.—January 5th.—Suppressed cough, with short, quick respiration from slight inflammation in the pleura. ℞ *Bryonia* $1^x$, gtt. x, 4ta, q. q. h.

8th.—Cured.

C. D., No. 247.—January 21st.—Was only discharged from hospital the day previously as cured of gastritis, but on this morning, when brought out to exercise, was heard to cough very much, which I attributed to irritation in the tracheal membrane. Prescribed *Bryonia* $1^x$, 4ta, q. q. h.

22nd.—Cured.

For the suppressed cough of pleurisy or pleuro-pneumonia, *Bryony* has no rival.

*Dose and frequency of administration.*—℞ *Bryonia alba* ϕ or $1^x$, gtt. x, aquæ ℥ij, quater vel quinquies die.

### *Iodium.*

I have found the *Tincture of iodine* useful both for laryngeal and tracheal coughs, attended by an effusion from the membrane of a plastic nature, as well as in those cases dependent on chronic inflammation of the membrane, and accompanied by an unhealthy discharge from one or both nostrils. In its action on the laryngeal and tracheal membrane it resembles *Bryony*, but differs from the latter in its affinity for the salivary glands. When the cough depends upon an irritable, not inflammatory state of the salivary glands, or of the mucous follicles in the laryngeal and tracheal membrane, whereby these secretions are changed from their normal character, I believe *Iodine* will be found superior to *Mercurius*, *Bromine*, or *Spongia*, but often inferior to *Arsenicum*, which appears to be its chief analogue. Illustrations:

C. D., No. 317.—December 13th.—Admitted to hospital for catarrh with the usual symptoms, and treated by *Bell.* $1^x$ without improvement.

15th.—I found the inflammation had extended down the trachea as far as its bifurcation, but that it was of a subacute character, and attended by a plentiful discharge from near nostril and enlarged submaxillary gland same side. The cough was loose but frequent, and readily produced by slight pressure on any part of the trachea. Prescribed *Iod. tinct.* $1^x$, gtt. x, quinquies die.

17th.—Cough removed, and no inflammation in either gland or trachea. No more medicine given.

18th.—Cured.

Officer's horse, 13th Hussars.—December 18th.—Frequent, hard cough from irritation in the larynx and trachea, accompanied by an unhealthy discharge from off nostril. Prescribed *Iod. tinct.* $1^x$, gtt. x, quinquies die.

21st.—Cough quite removed, but the nasal discharge required a few doses of *Kali B.* to remove it.

*Dose and frequency of administration.*—℞ *Iod. tinct.* $1^x$, gtt. x, aquæ ℥ij, quinquies die.

## *Mercurius.*

*Solubilis* 1, *Vivus* 1, *Corrosivus* dil. $2^x$.

These mercurial preparations act on the mucous membrane lining the air-passages, but principally on the laryngeal portion, and also on the salivary glands. I have very little faith in *Mercurius* as a remedy for bronchial coughs, either acute or chronic, and feel convinced that if those authors who recommend it for chronic bronchitis would substitute *Antimonium tartaricum* either in trituration or dilution, they would find the latter a far superior remedy, especially in those cases where the tubes are filled with mucus. The cough requiring *Mercurius* is dependent on the secondary stage of inflammation in the pharyngo-laryngeal region and neighbouring glands, and its use is indicated by increased secretion, nasal discharge, and sore throat. Illustrations:

C. D., No. 130.—May 10th.—Admitted for cough and sore throat with nasal discharge, for which *Belladonna* was prescribed.

17th.—No sore throat, but cough and nasal discharge remaining, I prescribed *Merc. vivus* 1, grs. x, quater die.

19th.—Cured.

C. D., No. 235.—July 25th.—Laryngeal cough with nasal discharge and sore throat. Prescribed *Merc. vivus* 1, grs. x, quater die.

28th.—Only coughed twice this day.

29th.—Cured.

C. D., No. 57.—December 2nd.—Cough (laryngeal), and nasal discharge. Prescribed *Merc. vivus* 1, grs. v, quater die.

5th.—Cured.

C. D., No. 301.—January 1st.—Laryngeal cough, sore throat, and nasal discharge. Prescribed *Merc. corrosivus* $2^x$ dil., gtt. x, 4ta, q. q. h.

5th.—Cough quite removed, but slight nasal discharge remaining. She was kept in hospital two days longer.

The trituration should be placed dry on the tongue.

## *Nux vomica.*

*Tinct. nucis* is principally indicated in coughs of a nervous and spasmodic character which some horses have early in the morning and at night, but without deranging the general health, and often without any pathognomonic symptom whereby its seat can be accurately determined. This chronic cough appears to me to depend upon some derangement in the pneumogastric nerve. Sometimes the recurrent is the branch most affected, sometimes the pulmonary branches, but occasionally the gastric, when we have what is called a "stomach cough." The acute symptomatic cough for which *Nux* is applicable is attended by constipation or a slimy state of the fæcal balls, foul tongue, or a peculiar white appearance of its dorsum, and probably yellowness of the buccal membrane, and sometimes by that state of the skin called "hide-bound." Illustrations:

C. D., No. 270.—March 16th.—Cough accompanied by foul tongue, increased saliva, soft, slimy fæces, and impaired appetite. Prescribed *Nux* gtt. x, quater die.

18th.—Not coughing, tongue clean, feeding well.

19th.—Convalescent.

21st.—Cured.

A. 41, 3rd Hussars.—May 9th.—Admitted for influenza and treated by *Bell.*, which removed the chief symptoms.

14th.—The cough remaining, and the skin being hide-bound, I ordered *Nux* or *Nucis tinct.* $1^x$ gtt. x, 4ta, q. q. h.

17th.—Cough quite removed, as also the unhealthy state of the coat.

21st.—Discharged for duty cured.

C. D., No. 219.—September 28th.—Nervous cough, hard, dry, and spasmodic, which I diagnosed as having its seat in the recurrent nerve. There was no soreness of throat or any other catarrhal symptom. Prescribed *Nux*, gtt. x, quater die.

30th.—Cured.

*Dose and frequency of administration.*—℞ *Nucis tinct.* $1^x$, gtt. x, aquæ ℥ij, quater die.

### *Phosphorus.*

This is the best medicine for pulmonary coughs of a febrile or inflammatory character, whether such cough has its seat in the small bronchi or substance of the lung. It is also useful for chronic cough arising from some organic change in the pulmonary tissue. The *Phosphorus* cough is dry, short, and frequent, or what is termed a "racking" cough. Human surgeons recommend this drug for laryngeal cough, but I cannot endorse this recommendation in veterinary practice. Illustrations:

C. D., No. 170.—August 8th.—A hard, dry cough, in paroxysms, having its seat in the bronchial membrane. Prescribed *Phosph.* $2^x$, gtt. x, quater die.

12th.—Cured.

C. D., No. 297.—September 15th.—Cough and sore throat, which latter was removed by *Bell.*

20th.—No improvement in the cough, and on auscultation I found that it had its seat in the bronchi. Prescribed *Phosph.* $2^x$, gtt. x, quater die.

22nd.—Cough quite removed.

23rd.—Cured and discharged.

C. D., No. 239.—October 29th.—Pulmonary cough. The cough was loud, dry, and frequent, especially in the morning, but unattended by sore throat or any other catarrhal symptom. Prescribed *Phosph.* $2^x$, gtt. x, quater die.

30th.—Not coughing, but yet continue the medicine.

31st.—Cured.

*Dose and frequency of administration.*—℞ *Phosph.* $2^x$, gtt. x, aquæ ℥ij, quater die.

## *Rumex crispus.*

This drug, whose specific action on man is confined to the laryngo-pharyngeal region, in the horse has an equally powerful effect on the bronchial membrane.

The laryngeal cough which *Rumex* removes is dependent on an irritable (not inflammatory) state of the membrane, either idiopathic from the commencement or the result of previous inflammation which has been removed by other means. In consequence of the absence generally of objective symptoms, and the horse being unable to give us the subjective ones, it requires a great deal of practical knowledge to decide on the seat and class of cough for which *Rumex* is suitable; but once correctly diagnosed the remedy acts like magic.

There is no sore throat, bronchitis, or any marked constitutional derangement, and seldom any abnormal râle, yet the horse coughs frequently, especially on the slightest exertion.

Sometimes a sibilant or mucous râle may be heard, but more frequently the respiration is merely harsh, as though the membrane was deficient in secretion. It is, in fact, an idiopathic cough whose seat it is difficult, and often impossible, to determine; but of this the reader may be assured that if *Rumex* be the appropriate remedy, its action will be apparent in two or three days. Illustrations:

C. D., No. 299.—April 18th.—Admitted for cough, sore throat, and nasal discharge, which latter were removed in five days by *Bell.*

23rd.—Cough only remaining, I prescribed *Rumex* *ϕ*, gtt. x, quater die.

24th.—Cough removed and did not return, but I kept the horse in hospital under observation until the 28th inst.

C. D., No. 275.—April 19th.—Same symptoms and treatment as the last case up to the 27th inst.

27th.—Cough only remaining I prescribed *Rumex* *ϕ*, gtt. x, quater die.

29th.—Cured.

C. D., No. 233.—July 16th.—Frequent and distressing cough without sore throat or any other catarrhal symptom. Prescribed *Belladonna.*

18th.—No improvement. Mucous and sibilant râles audible in bronchi, but no febrile symptoms. Prescribed *Rumex* *ϕ*, gtt. x, quater die.

20th.—Nearly well.

23rd.—Cough quite removed, as well as the abnormal sounds in bronchi.

C. D., No. 239.—November 26th.—Loud, dry cough in paroxysms, chiefly in the morning, having its seat in the bronchial membrane. Prescribed *Rumex* *ϕ*, gtt. x, quater die.

28th.—Cured.

### *Hygienic treatment.*

The horse should be placed in a well-ventilated but not cold box, and in cases of acute or recent cough not worked, or even exercised for three or four days, when, if the cough continues, without any inflammatory symptoms being present, he may be *walked* out daily at noon in winter but earlier in summer. Warm bran mashes should be given, but no dry corn, except in sub-acute cases.

In conclusion I may remark that no horses are selected for treatment by the veterinary surgeon, but are sent to the hospital by the riding-master, or by the sergeant-majors, when they are too ill to do their work.

# REVIEWS.

*The Science aad Art of Surgery, adapted to Homœopathic Therapeutics.* By E. C. FRANKLIN, M.D., Profèssor of Surgery in the Homœopathic Medical College of Missouri, and Surgeon to the Good Samaritan Hospital, St. Louis. St. Louis: Luyties; London: H. Turner and Co. pp. 844.

WE have already (see vol. xxvi, p. 114) discussed the *raison d'être* of such treatises as this of Prof. Franklin's. America indubitably needs them; and we on this side of the Atlantic may find some parts of them profitable. The work before us is a fair one of its class. It is avowedly "compiled from standard allopathic authorities;" and so far lays claim to no merit but that the compilation be full and readable. This it is. Especial attention is devoted to the minor operations of surgery; and these are illustrated by numerous engravings, so that the wants of the student are fully cared for. Dr. Franklin's own experience supplies many facts of surgical interest, and his private museum is laid under contribution for cuts of the rarer phenomena of his art.

But the portions of the present volume which are of most value to us are those which deal with the application of Homœopathic therapeutics to surgical affections. What we want here is personal experience; and Dr. Franklin has a good deal of this to draw upon. He was an army surgeon during the war between North and South, and had charge of part of a military hospital. He has accordingly much to say upon the treatment of wounds and other injuries; and we have searched his pages with much interest to see how far homœopathy has stood the severe test thus applied to it. The following jottings are likely to be useful to our readers.

1. The very highest praise is given to *Calendula* as a

local application, especially to suppurating surfaces. "A large experience with this remedy in suppurations, from whatever cause, has given me the most unbounded confidence in its efficacy, as being the most valuable drug for suppurating surfaces yet known in the *Materia Medica*." But the author is wrong in saying that "Prof. Temple, of St. Louis, was the first physician to test the efficacy and curative powers of this drug in suppurating surfaces." Dr. Thorer's paper on its vulnerary virtues will be found translated as early as in the 5th vol. of the *Brit. Journ. of Hom.*, *i.e.*, twenty-one years ago.

2. Dr. Franklin confirms from his experience Dr. Jake's recommendation of *Lachesis* in traumatic gangrene. "I have used this remedy in a number of cases of gangrene following wounds, and have never been disappointed in its results. In a case of compound complicated comminuted leg-fracture, terminating in gangrene and threatening speedy destruction of the limb, the gangrene was quickly checked by the internal and external use of *Lachesis*—the inflammation subsiding, and the healing process moving on to a complete cure. In another case of compound dislocation of the ankle-joint, with fracture of malleolus externus, followed by gangrene, *Lachesis* effected a speedy cure—the patient making a good recovery under the surgical treatment employed. I cannot recommend too highly the use of this agent for gangrene, and am confident that the observations of all who have or may employ it (*sic*) will bear me out in the assertion that it is eminently curative of gangrenous affections."

3. We turned with some curiosity to the chapter on Pyæmia, to see if Dr. Franklin has any practical knowledge of its homœopathic treatment. But we are disappointed. "With reference to the homœopathic treatment of this disease, I can only recommend that those remedies be given whose symptoms correspond to the totality of the disease. *Bryonia* and *Mercurius sol.* have been used without any marked benefit." We should think so. "In fact, I do not know of any medicine that corresponds homœopathically with this morbid condition; and we must content ourselves

for the present to use such appliances as seem to do the most good." Should Dr. Franklin see this notice, we would ask him to consider the suggestions as to the treatment of pyæmia in vol. xxvi of this Journal, p. 479.

4. The chapters on venereal diseases are mainly founded upon the valuable treatise of our own Yeldham. But some of Dr. Franklin's own observations are worth noting.

" I have made some brilliant cures of gleet, or rather of chronic clap, by the internal administration of *Iodide of Potassium,* 3rd (dec.) trituration, every four or five hours. Usually upon the second day the discharge diminishes, and in four or five days longer disappears entirely. It is appropriate to patients of a strumous diathesis, but is interdicted by allopathic authority on the ground that it 'increases the discharge from the urethra." Dr. Bumstead says, 'I have found that the *Iodide of Potassium* has a tendency to increase the discharge from the urethra, as it often does the secretion from other mucous membranes; and I do not therefore administer it.' "

"*Hamamelis,* both internally and externally, has been found, in my hands, a remedy of great curative powers in controlling the diseased action attending epididymitis" (he is speaking of the inflammation of the testicle metastatic of gonorrhœa), "especially in those cases where the disease partakes of a congestive or sub-acute character rather than the inflammatory."

"*Clematis erecta* has been found in my hands of great service in the inflammatory variety of stricture, terminating by serous infiltration into the sub-urethral tissue and the formation of a sub-mucous callus."

In gonorrhœal ophthalmia, he seems to have found it necessary to use such topical applications as *Nitrate of Silver, Nitrate of Mercury,* or *Corrosive sublimate,* in addition to specific remedies.

Of phagedænic chancre, he writes :—" Among the internal remedies, none are more prolific of good results than *Arsenicum* and *Lachesis ;* and frequently by the use of one or both of these remedies, the phagedena (*sic*) will almost immediately subside and the case go on to a rapid recovery without the use of any other internal remedy. If the phagedena depend upon a mercurial poison affecting the system, *Nitric Acid* will be productive of great benefit by antidoting the poisonous effects of that drug."

"'*Corydalis formosa* is a remedy,' says Hale, 'that has some curative influence over syphilis.' My experience with the drug is limited. In *three* cases of constitutional syphilis, manifested by nocturnal pains, ulcerations in the throat, nodes, loss of hair, eruptions upon the surface, &c., &c., it produced the most surprising as well as satisfactory results, curing these cases so rapidly that it seemed possessed of almost magical powers. All three of the patients had been under allopathic practice, diligently and faithfully tried, before submitting themselves to my treatment, and in eight weeks or thereabouts complete and permanent recovery ensued by the use of this remedy. I began the treatment with twenty drops of the tincture three times a day for one week, or until amelioration in the symptoms took place; then either decreased the dose or lengthened the interval, as circumstances seemed to warrant, keeping up a slight drug impression for at least two months after the cure was established."

Of infantile syphilis, he says:—"As soon as the disease is diagnosed, the child should immediately be put under the influence of one of the mercurial preparations, and none possess a more decidedly curative action than the *Iodide of Mercury*. I give it from the 6th to the 12th potency (decimal) twice a day, to be continued until the *eruption* and *snuffling* have disappeared, when the *Nitric Acid* or *Iodide of Potash* may be given for another week or more. It will seldom be found necessary to repeat the mercurial course more than once, the symptoms disappearing entirely under the use of these remedies."

"*Eryngium aquaticum.*—This remedy exerts a marked influence over the genital organs, and from a somewhat extensive experience, I am enabled to pronounce it a most effective agent in controlling involuntary emissions occasioned by onanism or excessive sexual indulgence. In ordinary cases, it should be administered as often as three times a day, at the second or third attenuation."

5. The most interesting point in the treatment of injuries as laid down by Dr. Franklin is his use of the *Hypericum perfoliatum.* He cites in one place a Dr. T. L. Brown, who writes:—" Of *Hypericum perf.* I can speak with enthusiasm. The use of it was first suggested to me by Dr. Lippe; and since that time a single dose of the 200th potency has never failed to give almost instantaneous relief to the pain resulting from the injury of parts rich in nerves, particularly the fingers and toes, and matrix of the nails." Further on, he writes:—" *Hypericum perf.* is a remedy of great value in the treatment of open, *painful* wounds, attended with general prostration from loss of blood, with a feeling of weakness and trembling in all the limbs, langour on rising, fainting from physical effort, thirst, and heaviness of the head. In local congestions, and in capillary erethism, accompanied or not with hæmorrhage and great nervous depression, following wounds, I have found it an exceedingly valuable agent; and in such wounds, I have no doubt, its reputation will be enhanced by future use, until it is proved as much a specific for such wounds as *Calend.* is for suppurating surfaces, or *Arnica* for bruised tissues." And again:—" *Hypericum perf.*, as a local application in lacerated wounds, and in fact in all wounds before suppuration sets in, stands pre-eminent among the most valuable remedies of the Materia Medica. It acts directly in removing the ill effects of shock, prevents in a great degree sympathetic irritation of the system with the local derangement, and modifies to a corresponding degree the subsequent inflammation and sloughing. In recent cases, and after spasmodic action of the capillary system has passed away, it should be used in the proportion of one part of the tincture to twenty of warm water, and kept diligently applied to the abraded surface. . . . The *Hypericum* in the slighter forms of lacerated wounds, if applied early, will sometimes arrest, and always modify the occurrence of ulceration and sloughing. By its use I have succeeded in preserving the vitality of torn tissues when almost entirely

separated from the body; and in compound fractures of the hands and feet, with great laceration of the soft tissues, the *Hypericum* has produced the most beneficial results. It stands in the same relation to laceration of the tissues as *Arnica* does to their contusion."

For dissecting wounds, it is mentioned that "*Hamamelis* is highly recommended by Dr. T. G. Comstock, in the form of a saturated solution applied to the wound. In half a dozen cases of poisoning from dissecting wounds, one of which was on himself, he witnessed the most beneficial results from its use."

6. We are disappointed in the section of Dr. Franklin's book which treats of Tetanus. Four cases of the traumatic form were under his care during his term of service at the military hospital we have mentioned. Two died; and two recovered under the inhalation of chloroform. No attempt seems to have been made to try what homœopathically-acting medicines can do against this disease.

7. A good deal of space is devoted to diseases of bone, and the indications for the usual remedies are well and clearly given. The author speaks strongly in favour of the higher potencies of our medicines in the treatment of these diseases. "The lower potencies have not seemed, in the hands of the author, to be productive of such good results as have almost uniformly followed the employment of the higher attenuations."

We believe that Dr. Franklin's work will supply the want in which it originated: and we hope that he will follow it up by special contributions towards our knowledge of the homœopathic treatment of surgical diseases.

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*The Practitioner; a monthly Journal of Therapeutics.* Edited by Drs. Anstie and Lawson. Macmillan. Nos. IV—IX.

Since we last (vol. xxvi, p. 624) noticed this Journal, it has continued its contributions towards homœopathic "ideas." Dr. Wilks's paper on *Aconite* has already been sufficiently commented on. But equally significant is the following, from a paper "On the Employment of *Belladonna* in Surgical Affections," by Mr. Christopher Heath.

"I have employed small and frequently repeated doses of *Belladonna* internally in erysipelas, and have been perfectly satisfied with the result, and should have no fear of employing it even in erysipelas of the head, on account of the supposed danger of inducing congestion of the brain. The drug would, I take it, produce an exactly opposite effect; for so far from driving the erysipelas in upon the brain (if that is ever possible) the influence of the *Belladonna* would be exerted equally upon the interior with the exterior of the cranium, and any congestion of the capillaries of the brain which might be present would thus be antagonised. If this view is correct, it would appear that *Belladonna* might be usefully had recourse to in cases of congestion of the brain from any cause: and such is probably the fact.

"The conclusions I would venture to draw are, that the action of *Belladonna,* whether applied locally or given internally, is the same; viz. that by its action on the vaso-motor system of nerves it diminishes the calibre of the capillaries, and thus directly reduces the vascularity of an inflamed part. Its action is then peripheral; and it is, therefore, the opposite of *Aconite,* whose action is central, or upon the heart itself. It does not follow, however, that the two drugs cannot be employed together; quite the contrary; the action of the one is to diminish the flow of blood to the part, whilst the other assists the tissue to get rid of the superfluity it already contains and resist its further entrance, and the two may in many morbid conditions be advantageously combined."

Now, these are the very things which, divested of theory and expressed with less hesitation, we homœopaths have been saying about *Aconite* and *Belladonna* for the last forty years. It seems as if homœopathy is going to be rediscovered, *ab initio,* and perhaps again Amerigo will give his name to the new-found country, while Columbus is ignored.

*The American Journal of Homœopathic Materia Medica: a Monthly devoted to the publication of the Materia Medica, a collection of Clinical Cases, Characteristics, and a periscope of the Medical Sciences.* Philadelphia: Tafeel. London: Turner.

We take some shame to ourselves for not having previously noticed this Journal, which is one of unique character and unusual value. It originated in the desire of the veteran Constantine Hering to give to the homœopathic world the symptom-codex which for many years he had been compiling. Disappointed in his first attempt to publish it by subscription (a subscription, be it said to his honour, barely covering the actual expenses), he has begun to issue it as an appendix to a Journal, for which purpose he has associated with himself his brother Professor in the Hahnemann Medical College of Philadelphia, Dr. Noah Martin. The *Materia Medica* has an independent paging, so that it may be separately bound. When finished, it will be the most complete collection of symptoms we possess, and the best arranged. Hahnemann's scheme is mainly followed, but the classes are more broken up and subdivided. Each symptom (as in the original German) begins a new line; and each has attached to it the name of its observer. Much care is taken to preserve the symptoms in groups: and repetition is not heeded so that this important end may be secured. Upon such a plan Dr. Hering has already given us *Natrum sulphuricum*, *Eupatorium perfoliatum*, *Eupatorium purpureum*, *Theridion*, *Sarsaparilla*, *Mercurius iodatus ruber* (*Biniodide of Mercury*), and *Cuprum*. It will take a good many years to go through the *Materia Medica* at this rate. But in the mean time we are getting valuable matter: and shall not complain, even though we regret, if the work never reaches completion.

Dr. Martin's part of the Journal has for its chief feature a collection of cases from all sources, the number of which has now mounted up to two hundred. Many of them are taken from back numbers of our Journal: and stand out in striking contrast with the more meagre reports of later days. Dr. Martin hopes, in time, "to have collected in compact form, all the valuable cases now scattered through our homœopathic literature:" and considers that "such a volume, well-indexed, as a book of reference can hardly be overvalued." In addition to the cases, he publishes "characteristic" symptoms of drugs: such groups of symptoms as have often been corroborated by cases; practical remarks: therapeutic hints; and such other matters as have direct reference to the healing of the sick.

Dr. Hering's original idea is adhered to, in that the Journal is published at cost price. Twenty-four pages are at present given monthly; but when the subscription list reaches 750, thirty-two pages are promised, when it reaches 1000, forty-eight. We hope that English subscribers will help to swell the list.

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*The Philosophy of Eating*, by Albert J. Bellows, M.D., &c. Fourth edition. London: Sampson Low, Son, and Marston, 1869.

*How not to be Sick; a sequel to "Philosophy of Eating,"* by Albert J. Bellows, M.D., &c. London: Sampson Low, Son, and Marston, 1869.

The first of these books is a popular work something in the style of *Johnston's Chemistry of Common Life*, only less profound; and though more flippant in style, decidedly less attractive and amusing. It contains much useful knowledge, and probably a good deal that can scarcely be characterised as useful. There is much in it that is true, so true, indeed, as to deserve the epithet truism; and little in it that is new, and that not always true, such as this surprising statement at p. 129:—"Of reptiles, the turtle only is eaten, unless under this title we class eels." Now, we know that among the peasants north of the Tweed, eels are not eaten because they are supposed to be serpents without scales and having a preference for water; and the prejudice against serpents as food has a sort of theological source in the Scottish mind, but we don't remember to have seen eels classed among reptiles in a professedly scientific work.

The "moral" of the work, if we may be allowed to use the term, seems to us to be, that we ought to make our bread of unbolted wheaten flour, that is, flour with the bran in, and that alcohol is a poison and not a food. There are some very sensible remarks on the proper food for infants and nursing mothers. But the author's dreadful warnings about the evils attendant on the eating of nice white bread, and on abstinence from phosphates, are rather overstrained, especially as bread forms but a small proportion of the food we eat, and we get phosphates enough, and sometimes too much of them, in our other food. He justly ridicules the proposal of Professor Horsford, which we have recently seen endorsed by Liebig, to substitute for the organized phosphates removed by the miller, unorganized phosphatic salts, which he asserts are not assimilable by the animal organism, which can only assimilate as food organized matters. He gives a recipe for making what he calls "Natural Bread," which we have not tried, and don't know if it would answer; but here it is, try it who likes:—

> "Bread, light, sweet, delicious, and eminently wholesome, may be made by mixing good unbolted meal with cold water (or milk if preferred), making a paste of proper consistence, which can only be determined by experiments, pouring or dropping it quickly into a heated pan, and placing it quickly in a hot oven, and baking as quickly as possible without burning. The heat of the oven and pan suddenly coagulates the gluten of the outside, which retains the steam formed within, and each particle of water being interspersed with a particle of flour and expanded into steam, separates the particles into cells, and being retained by the gluten, which is abundant in this natural flour, till it is cooked, the mass remains porous and digestible, and, containing no carbonic acid gas, is wholesome when eaten immediately, and, of course, equally on becoming cold." —(P. 46.)

As we said, we have not tried this plan of making bread, but we should doubt much its capability of turning out a light loaf; at all events, we fear many a batch would be destroyed before we discovered the right proportion of water, the right heat of the oven, and attained the requisite quickness for making a light spongy bread by this method.

The second book by Dr. Bellows is, as the title tells us, a sequel to the first, and goes over a good deal of the same ground; but in addition, it contains an account of homœopathy, and a comparison of it with the old system, to the disadvantage of the latter. This part is written in an extremely flippant but not unamusing style, and perhaps it may be of use *ad captandum vulgus,* it is singularly free from any scientific value.

One of the most objectionable features in these works by Dr. Bellows, especially the first, is the habit he has, and which he shares with many popular authors, of enforcing his opinions by declaring them to be God's will. Thus he will say, *ore rotundo,* "The Creator in His infinite wisdom has ordained" so and so, when he means to say that in his opinion such and such is the case. This, in our judgment, is at once the tallest and most offensive of "tall talk." If we are "thwarting the purposes of our heavenly Father" in depriving our wheat of its bran before baking it into bread, then, in the case of some of His children, the purpose of our heavenly Father in supplying this bran must be to gripe and purge them, that being the effect of unbolted wheat flour on not a few; but we don't think that even Dr. Bellows would consider this a very fatherly intention. When science borrows the weapons of theology, both are reduced to an absurdity.

We have omitted to state that Dr. Bellows is an American, in fact, a homœopathic physician practising in Boston; and notwithstanding the popularity of his works, as evidenced by the number of editions the first one has passed through, if we may judge by the report of the meeting of the Massachusetts Homœopathic Medical Society, which has appeared in several of our transatlantic contemporaries, their author is not as highly appreciated by his colleagues; for we there read that "Dr. Bellows resumed the reading of his paper, when, on motion of Dr. Krebs, it was voted that the further reading of the same be discontinued." Decidedly our author is considered too long-winded by his colleagues; and, indeed, that is just the fault we should be disposed to attribute to him. His works resemble his representation at p. 51 of Tuscarora corn—a small quantity of phosphatic brain material embedded in a large mass of mere carbonaceous fat-making matter. But possibly such intellectual fare is best suited to the public to which Dr. Bellows' works are addressed; and those likely to read them will not belong to that class headed by the envious Krebs, who would vote for a discontinuance of the further reading of the same.

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*Homœopathy in* 1869; *an Essay on the Origin and Present Position of the Law of Specific Drug-healing,* by William Bayes, M.D., &c. London: Turner, 1869.

We heartily recommend this little pamphlet to those not yet acquainted with homœopathy. It commences with a short biographical sketch of Hahnemann. It next shows that homœopathy, best of all systems, comes up to the ideal of Asclepiades, by healing "*tute, cito et jucunde.*" It is well and pleasantly written, and we heartily wish it a wide circulation.

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*The Homœopathic Directory of Great Britain and Ireland for* 1869. London: Turner, 1869.

This annual contains, as usual, indispensable information, and shows no falling off in the excellent summary it gives of the English homœopathic literature of the past year. If we might be permitted to suggest an improvement, it would be in the direction of the information given respecting the state of homœopathy on the continent. Surely it would not be very difficult to obtain accurate information regarding the names of our continental colleagues and their places of residence. In almost every country of Europe a homœopathic directory is published, and the information these contain might easily be embodied in this work, and add greatly to its value. We have no doubt the enterprising publisher and able editor will act on the hint here thrown out, and next year furnish us with a complete list of homœopathic physicians, not in Europe only, but also in America.

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*Die Homöopathische Therapie auf Grundlage der Physiologischen Schule*, &c. Von Dr. J. Kafka, Sondershausen and Gotha, 1865—9.

*Homœopathic Therapeutics on the basis of the Physiological School*, &c. By Dr. J. Kafka, Sondershausen and Gotha, 1865—9.

This is meant to be an adaptation of the therapeutics of homœopathy to the nosology of the modern physiological school. The attempt is praiseworthy, but the adaptation is not, it strikes us, always up to the mark of the intention. This, however, was hardly possible in a work which treats of so many diseases, for, with the exception of diseases of the eye, ear, and mind, it professes to be a complete therapeia of all diseases. By the way, the reasons given in the preface for omitting the diseases named are worthy of note. The first is that we have not a sufficient experience of their treatment. But as this would apply with even more force to many of the diseases handled in the work, and as our experience in respect to many eye diseases at least is extensive enough, we cannot regard this reason as altogether satisfactory. The other reason given is that most university towns (Dr. Kafka resides in the university town of Prague) possess specialists for eye, ear, and mental diseases, and homœopathists are but seldom consulted about them. But though we, too, live in a university town, we confess to getting a fair amount of eye and ear diseases to treat, and we are not altogether deprived of patients mentally afflicted. And, moreover, as the specialists in question invariably belong to the allopathic school, there is all the more reason for furnishing a guide to the homœopathic treatment of these diseases.

The grand object of a work of this kind should be and is to assist the practitioner in his treatment of diseases. But there is no royal road to the practice of homœopathy, and we fear that the teaching of the physiological school, in other words, the reading of pathology by the light of that school, does but little to facilitate the selection of the appropriate drug for each disease. Dr. Kafka has in the most conscientious manner given us the definition, anatomical characters, ætiology, position, course, progress, termination, prognosis, and therapeutics of each disease as far as he could do so with the aid of all the recent discoveries and conjectures of the so-called physiological school; but a careful study of some of the diseases so treated convinces us that but little is added in this work to the main object of the book, viz., the facilitating the right selection of the drug. After ever so long and learned an account of the pathological anatomy, ætiology, and so forth, of the disease, we find that the indications for the remedy remain just as they were a generation ago before the physiological school was heard of. It is, of course, some gain to have a work where everything appertaining to the pathology of the diseases is set forth in the most modern and scientific manner, but after all the gain to therapeutics is not great in proportion. When the author comes to the indications for the remedy, his language must be identical with that in use among homœopathists since the commencement, and we doubt if any one could honestly say that the labours of the physiological school have given us half-a-dozen hints as to the selection of remedies, which were undiscoverable by the ordinary way of symptomatology.

It will be obvious to our readers from what we have said that we consider Dr. Kafka's flourish about the "basis of the physiological school," as adding but little to the value of the work as a guide to practice. And yet we would not wish to have it thought that we undervalue Dr. Kafka's endeavour to give a more scientific character to his work by availing himself of the lights thrown upon pathology and physiology by the modern school. On the contrary, we think he would have been much to blame if he had neglected the recent progress that has undoubtedly been made in these studies. Indeed, we are more inclined to blame him for not being up to the times in his treatment and descriptions of some of the diseases; we would mention particularly syphilis and diabetes, and there may be several other where he seems rather to lag behind the age. But on the whole we consider those two volumes to be creditable to their author and likely to be very useful to the practitioner, while sufficiently on a level with the progress of scientific research to secure a respectful reception from well-educated inquirers of the allopathic school. For simplicity of arrangement and attractiveness of style we do not consider it equal to the work of Dr. Jousset, reviewed in our last, and we think it decidedly inferior to that work on account of the needless multiplication of remedies for each disease. We prefer Dr. Jousset's simpler plan of enumerating only a few well-marked remedies for each disease, and referring to the *Materia Medica* and repertory for the remainder, to Dr. Kafka's idea of making his work a complete substitute for the *Materia Medica* by loading it with minute symptomatological details respecting almost every conceivable remedy for each disease. But to do Dr. Kafka justice, he does not limit himself to a mere enumeration of the homœopathic medicines for each disease, but is very explicit on the subject of diet, regimen, and hygiene, and carefully distinguishes the different kinds of mineral waters that have been found useful in the treatment of each disease.

On the whole, we can recommend this work as a valuable addition to our practical guides, and we sincerely congratulate the learned author on the completion of his labour of so many years.

# CLINICAL RECORD.

## *Aloes and Collinsonia in Pelvic Congestion.*

By Dr. Richard Hughes.

Feb. 16th, 1869.—Elizabeth L—, æt. 39, unmarried. Six weeks ago, caught a severe cold, since which she has suffered from continual pain in the pelvis. It is much increased after passing water, which she has to do frequently: the urine is dark. There is also pain after the bowels act: she has previously had piles, not bleeding much. There was more pain than usual at the last catamenial period: and she has a good deal of leucorrhœa.

*Aloes* 2, a drop three times a day.

23rd.—All the symptoms have been better throughout the week till last night, when she had a chill, and this morning she is not so well.

Take *Aconite* 3rd dec. for two days, then resume the *Aloes.*

March 2nd.—She has now no trouble from the bladder, and indeed no pain whatever save when the bowels act, which they do tardily and costively.

*Collinsonia* 2, a drop three times a day.

9th.—This trouble has now disappeared, and she feels quite herself. Continue *Collinsonia* night and morning for a week, and then omit.

I have so frequently, in my *Manual of Therapeutics,* recommended *Aloes* and *Collinsonia* for pelvic congestion, that I am glad to have the opportunity of adducing this case, which well illustrates what I mean.

## *Iodide of Potassium in Wens.*

By Dr. H. Belcher.

Some months since I was called to see Mrs. H—, æt. 60, who had long been suffering from a complication of troublesome symptoms which had been considerably aggravated by powerful doses of violent medicines. I adopted the usual treatment, and she soon declared herself to be in the enjoyment of better health than she had had for many years. On the 19th of February last she called to consult me concerning a cluster of wens, which had adorned her scalp for thirty-three years. After examining them, I expressed the opinion generally admitted (I believe) amongst surgeons of the present day, viz.: if they cause you no pain or inconvenience, let them alone; and in the event of the contrary, it may be well to take into consideration the propriety of removing them. However, my patient was not to be put off; she had derived so much benefit from the former treatment, that she would much like to try the effect of homœopathic medicine here also.

Finding myself compelled to prescribe, the *Iodide of Potassium* suggested itself to my mind as the most likely remedy. I ordered three-drop doses of the first centesimal dilution three times a day; and my readers will better imagine my surprise than I can express it, when I say, in the course of a few days (the 27th of February), my patient presented herself with the wens almost entirely disappeared. My first impression was, this looked like the "charming away" of warts familiar to us in our boyish days.

I have seen my patient's head to-day (March 12th), and find the wens entirely disappeared, without the smallest trace of such a state of things ever having existed, save a little discoloration of that portion of the scalp and loss of hair.

## *Cancer of the Œsophagus.*

By R. Tuthill Massy, M.D., Brighton.

A lady in her seventy-fifth year, the mother of a family, consulted me last April on account of a difficulty in swallowing, to which her attention was first drawn about October, 1867. When I first saw her she appeared stout and well developed, neck rather short and thick, left thyroid gland enlarged. The food appeared to be detained on a little shelf on the right side of the thyroid cartilage; such was the feeling of obstruction.

As the friends and family appeared rather anxious, I introduced the elastic tube of a stomach-pump, until I came opposite the strictured part, when I felt it advisable, in consideration for her age, to treat the case otherwise.

I had the enlarged part of the neck painted every other day with tincture of iodine, and prescribed the third decimal trituration of *Potass. bromid.*, half a grain morning and evening. Under this treatment the neck diminished in size, and occasionally the swallowing was easier.

She went on a visit to Chelmsford to breathe her native air, and when there consulted Dr. Nicholls, who entertained the same views which I expressed regarding the stricture of the œsophagus, and the palliative treatment. I mention this consultation to introduce my readers to two cases of permanent stricture in gentlemen, which ended in starvation, about twenty miles to the north of that town; and two of spasmodic stricture, one in a brother, the other in a sister, within the same range, which are not likely ever to become serious.*

October 23rd, 1868.—The symptoms have increased so much that she has great difficulty in swallowing a teaspoonful of fluid, or the least portion of solid food. The body has wasted very much.

Ordered beef-tea and milk injections.

Occasionally mutton-broth thickened with arrowroot. After a few days of this treatment, giving rest to the throat, and nourishment otherwise exhibited, a little amendment followed, and the efforts to swallow became easier.

November 9th.—Is now compelled to keep to her bedroom. Found relief from a little port wine in water.

Directed a slice of toast, quite hot, and saturated with the wine, to be placed over the epigastric region, closely covered over with dry flannel. For about two hours this was exceedingly comfortable, until it finally acted through its flavour, and the inhaling of the aroma, in causing the most immense hunger, which could not be relieved in the ordinary way, and this placebo could not be repeated.

Dr. Casanova, of Cliftonville, suggested the application of a pigeon, by wringing the head, and quickly splitting the breast, and placing the opened bird over the stomach. The patient was so frightened lest the hunger feeling should return, this experiment was not carried out, but I record it as worth remembering.

16th.—Was able to swallow to-day *three table spoonfuls* of hare-soup, and for the last few days felt better. Obliged to recline on the bed frequently during the day.

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* The only treatment required in the spasmodic case is non-interference. Let the bit detained overcome the spasm gradually without a sup or any meddling with the throat swallow. Gently patting with the fingers along the spine assists the effort without any risk of aggravation.

29th.—Can walk across the room to the window without giddiness in the head. Dislikes beef-tea. Takes hare-soup; the first teaspoonful requires much care, or it will return by the nose. "It goes down to the little *shelf*, and then comes up into the mouth, but by coughing and *hacking* it finally passes the stricture;" such are the lady's words.

Prescribed *Lachesis* 6 bis die.

Bowels relieved once a week comfortably.

Retains the nourishing injections of six to eight ounces at each time.

December 6th.—Felt no benefit from the *Lachesis*.

Extract of *Belladonna* rubbed on the neck by the advice of an old medical friend, and with my consent, gave no relief to the occasional spasm when swallowing.

13th.—Was able to take three table spoonfuls of beef-tea to-day, thickened with gelatine.

20th.—Continues better.

27th.—Not so well able to swallow; obliged to resume the nutrient enemata; bowels relaxed, but even when moved after the injection, it does not return, only fæculent matter.

℞ *Arsenicum* 3, gtt. ii, bis in die.

January 3rd, 1869.—Is more feeble. Can only sit up for two or three hours in the evening; thought to have a mid-day injection, but it caused distension, and acted as an aperient—not so with the morning and evening one. Less spasm, and more mucus in throat.

*Calcarea carb.* 3, gtt. i, bis die.

17th.—Cough; bronchial râle in left lung; difficulty in expectorating dark adhesive mucus, often streaked with blood; pulse intermits, great weakness. Had two table spoonfuls of beef-tea, flavoured with mushrooms, which took nearly an hour to swallow.

The chest was rubbed with brandy.

*Bryonia* 3, ter die.

Enema of beef-tea, with a teaspoonful of brandy, which gave much comfort.

18th.—Felt bowels over full. Enema of tepid water, with table salt, brought down a large evacuation, so much that the patient wonders how it can be produced, considering the small amount of solids taken.

Beef-tea was injected immediately after the relief from bowels, which was perfectly retained. Always this has been observed. Occasionally starch or arrowroot is given in the enema.

20th.—Appears very weak; pulse wavering; voice feeble (up to this time the voice has been clear and firm); expectoration less. Took nine minutes to swallow one teaspoonful of fluid, and succeeded only by many efforts. Repeat *Arsenicum.*

30th.—Is on a water bed, not one which extends the entire length, only to relieve the hips and shoulders, which is preferable; does not care to rise, and, strange to say, can now swallow better in the recumbent posture, which she could not previously, excepting sitting up. Expressed a wish to have her throat examined after death.

February 13th.—This evening at 9 p.m., while coughing, up came from four to six ounces of red arterial blood; she breathed an expression of astonishment, and died.

This day she dined off broccoli and gravy.

*Autopsy.*—Body emaciated; mammary glands absorbed; skin very thin, adhering closely to the neck and chest; no cellular tissue under; muscles reduced to a few bright red fibres attached to the ribs. On opening the larynx saw some red blood adhering to the inner lining, which was traceable to a small opening about two inches below the cricoid cartilage, reminding one of surgeon Liston's case, and further in not finding the artery from which the blood issued. The œsophagus was firmly united to the back of the larynx, and formed one thickened mass of disorganised structure, extending for two or three inches along the rings of the trachea. The lower part of the pharynx was thickened, and my knife passed some *cul-de-sac* to the right, from which issued the last meal of mixed gravy and broccoli. Cutting along a zigzag irregular granulated passage, I reached the seat of the disease, which would scarcely permit a No. 10 bougie to enter. The entire circumference and structure of the passage was thickened, solid and fibrous, cutting more like to cartilage than muscle, and evidently of a cancerous nature.

The stomach was so small that it resembled more the duodenum than itself, but was quite healthy, containing a little gravy soup.

Intestines thin and empty.

Liver small; no bile.

Heart greatly reduced in size, pale around the base; serous membrane raised into vesicles from absorption of all cellular and fatty tissue; no blood within; valves healthy.

Lungs of a very dark grey colour, as is usual at this age.

About a pint of serum in the pleura.

Some mucus in the bronchial tubes.

*Practical deductions.*—This case teaches us a very useful lesson in the advantage gained by abstainers from any mechanical or purely surgical treatment. Had the usual dilating process been persisted in, the probabilities are, the hardened tissue would have given way, and this fatal hæmorrhage might have followed instantly, which would have cast a dark shade on the operator.

The absence of pain with such an amount of structural degeneration, bearing the character of scirrhus, is remarkable. Another point not to be forgotten is, the easy breathing, notwithstanding the increased bronchial secretion, and the effusion within the pleura. Serous effusion on the brain, heart, and lungs, may be due in a great measure to the act of dying.

## MISCELLANEOUS.

### *Homœopathy at Rochdale.*

A very spirited effort has lately been made by the friends of homœopathy at Rochdale to obtain a recognition of our system, and a position for it in a projected new hospital for that town. The proposal was that on condition of the support of the adherents of homœopathy by their subscriptions, a ward in the new hospital should be set aside for the treatment of patients on the homœopathic method. While we admire the zeal of our Rochdale friends, we are not so clear about the judiciousness of this movement. Everything that tends to perpetuate sectarian titles and epithets has a proportionate tendency to perpetuate and excuse the intolerant treatment by the self-styled orthodox majority of their differently thinking brethren. That the present ostracism of those who hold the therapeutic rule of *similia similibus* by their colleagues who deny the generality of this rule is a positive calamity not alone to us and to them, but to medical science, and the character of the profession as a body of profoundly liberal men, few will be disposed to deny; and that we ourselves, by our assumption of a name indicative of our therapeutic views and of sectarian names for our hospitals, dispensaries, and literature, have done much to keep up the animus against us among the majority, we are quite disposed to confess. But bad as our sectarian name, applied to ourselves, our institutions, and our journals is, we are inclined to think that its public introduction into a general unsectarian hospital would be far worse. Hospitals are established for the relief of suffering by medical and surgical means, and we are not aware that it has ever before been proposed to devote any ward in a hospital to the practice of any particular medical system, though we are perfectly sensible that wards have been many times made the field for the display of the capabilities of every different system. But this has not been done by declaring that such and such a ward in the hospital shall be devoted to the practice of Brunonianism, Broussaisism, Rademacherism, or the like; but it has happened that a ward or wards have been the theatre of experiments with such systems by the medical officers attached thereto having adopted these systems. Supposing our Rochdale friends were to carry their resolution, and a ward in the new hospital were to be devoted to the practice of homœopathy, the first thing to be done would be to find a doctor willing to accept the post. Rochdale may at present possess a medical man conversant with homœopathic treatment, and willing to accept the position of physician to this homœopathic ward, but who can tell if the same will be the case a few years hence? The doctor may disappear from Rochdale, and leave no competent successor; or he may adopt another medical creed (for even homœopathy has its renegades); or he may find his post too hot for him; for, in the event of a homœopathist being forced in among a staff of otherwise thinking doctors the latter would regard the former as complacently as a covey of partridges would a lively kestrel; they would look on it as a declaration of war; and, as all is fair in war as in love, every artifice would be had recourse to in order to render the heretical colleague's position as uncomfortable, and his practice in the ward as difficult as possible. That this can easily be done was demonstrated by the trial of homœopathy in a general hospital in Paris by Drs. Simon and Curie,. and the nearly similar experience by Dr. Chargé, at Marseilles. How then, may it be asked, are the sick poor to get the advantages of homœopathic treatment? We answer, not by forcing homœopathy upon existing or contemplated institutions in the manner proposed by the Rochdale enthusiasts, nor yet by the establishment of separate hospitals, ostensibly devoted to homœopathic practice. Homœopathic hospitals were doubtless useful and necessary in the early days of homœopathy to prove that diseases were capable of being cured more certainly, quickly, and economically than by any of the prevalent modes of treatment. But this service they have adequately rendered, and the necessity for making more of such denominational institutions no longer exists, though it may be expedient still to keep up those already established. The advantages of homœopathic treatment may be secured for the general hospitals by the election to the medical staff of medical men who practise homœopathically.

In most cases the subscribers or governors of hospitals are the electors, and if a sufficient number of them wish a part or the whole of their institution to be treated homœopathically they can easily carry out their wishes. The same result would ensue if one or more of the medical staff already attached to the hospital became convinced of the superiority of the homœopathic treatment. He could gradually and silently treat the patients under his care with the appropriate homœopathic remedies, and no one would have any right to interfere with him for acting as he thought best for those committed to his care. Of course it will be replied that the governors of a hospital have never yet elected a doctor who practises homœopathically, and that if they were to do so the whole of the medical staff would resign, and thus create a dead-lock. It is indeed true that such an election has never yet taken place but it very nearly occurred lately in Liverpool, and it cannot be very long before a homœopathist is really elected. As for the threat of resignation by those composing the staff, in the event of the election of a homœopathist, or the conversion of one of the actual staff to homœopathy, that may be treated with contempt, for were they to carry it into execution, they would only damage themselves irretrievably in the eyes of the public, and put themselves completely in the wrong; and we believe they have more sense than thus to commit professional suicide, when neither honour demands it nor profit follows it. The recent occurrences in Aberdeen will, no doubt, be objected to as contrary to these views; but we reply, a few more such victories and our opponents are undone, for the feeling raised against the Aberdeen infirmary staff by their action in reference to Dr. Reith, was so strong both within and without the profession, that they dared not proceed to the logical sequence of their act, and expel Dr. Reith from their medical society. As soon as our co-believers are elected to hospital appointments on equal terms with the rest of the profession—and that time cannot be long delayed—the necessity for our distinctive hospitals at once ceases, and we may shut them up, or erase their sectarian denomination, as seems most expedient. It is no time this to be clamouring for a Maynooth Grant or Regium Donum for homœopathy. Our proper course is to claim equality with the dominant medical Church, by insisting that it shall no longer enjoy the exclusive privileges of establishment and endowment.

## *Further Experiments on the use of the Alkaline Hypophosphites in Consumption.*

By Richard Payne Cotton, M.D., F.R.C.P.

Some time back I published in detail a series of observations upon the action of the hypophosphites of lime and soda in tubercular diseases of the lungs (*Lancet*, April 24th and May 2nd, 1863), and came to the conclusion that these substances were nothing more than neutral salts, suited, just as many other neutral salts are, to certain cases of phthisis in which there is a complication of acid dyspepsia, and that they had not, as alleged, any claim to specific action. Finding, however, that they are still regarded by certain medical practitioners as remedies of great value, and that they are still advertised "for the prevention and cure of consumption," I considered it right to give them another trial. The following is an abstract of twelve hospital cases in which they were administered.

Case 1.—Eleanor H—, æt. 22. Phthisis, first stage. Hypophosphite of soda was taken for three weeks, with decided improvement and a gain of one pound in weight. The hypophosphite was then changed for the carbonate of soda, the patient being unaware of the alteration. This was continued for four weeks, the general improvement continuing, one pound more being added to the weight, and the patient ultimately leaving the hospital greatly benefited both in the physical signs and general symptoms.

Case 2.—Emma B—, æt. 25. Phthisis, third stage. Took hypophosphite of soda for four weeks. The disease gradually advanced. The patient lost two pounds in weight, and left the hospital considerably worse than on her admission.

Case 3.—Mary A—, æt. 32. Phthisis, second stage. First took phosphate and subsequently perchloride of iron for three weeks without improvement. These medicines were then changed for the hypophosphite of soda, which was continued for the same length of time, but without any amendment, the patient afterwards leaving the hospital with every symptom gradually advancing.

Case 4.—William G—, æt. 23. Phthisis, second stage. Took hyphosphite of soda for three weeks with marked improvement and slight gain in weight. The hypophosphite was then changed for the carbonate of soda without the patient detecting the alteration. This was continued for the same period, during which, although the weight did not increase, there was a very marked general improvement. The patient expressed himself as "feeling better whilst taking the carbonate of soda;" but, in reality, he seemed to benefit equally under each treatment.

Case 5.—Thomas T—, æt. 16. Phthisis, first stage. Took hypophosphite of soda for two weeks, without improvement, and lost one pound in weight during that time. Quinine and subsequently phosphate of iron were then given for six weeks, during which period the patient gained six pounds in weight, and very greatly improved in every particular.

Case 6.—John G—, æt. 22. Phthisis, first stage. Took hypophosphite of lime for three weeks, and improved considerably. Carbonate of soda was then given for four weeks, and subsequinine for four weeks; after which the patient left the hospital greatly benefited, and weighing seven pounds more than on admission. Both the general improvement and the increase of weight advanced equally under each kind of treatment.

Case 7.—Eliza F—, æt. 25. Phthisis, first stage. Hypophosphite of lime was given in this case for three weeks, during which time there was a gain of one pound in the weight, but no general progress. Perchloride of iron was then prescribed, and taken for five weeks with very great advantage, the patient gaining only one pound more, but improving very manifestly, and expressing herself as having done "much better under the new medicine."

Case 8.—Rosa K—, æt. 16. Phthisis, third stage. Took hypophosphite of lime for three weeks without any improvement, and with a loss of three pounds in weight. Quinine was then given for four weeks, the patient still getting worse and losing three pounds more. Perchloride of iron was then prescribed and continued for three weeks, during which time five pounds were added to the weight, and there was a general improvement in all the symptoms.

Case 9.—Alfred S—, æt. 26. Phthisis, third stage. Took hypophosphite of lime for three weeks; improved considerably, and gained two pounds in weight. The hypophosphite was then changed for carbonate of soda, without the patient discovering the alteration. This was continued for eight weeks, during which there was a great improvement in all the symptoms, and three pounds more were added to the weight. The patient ultimately left the hospital much benefited in every respect.

Case 10.—Louisa P—, æt. 20. Phthisis, third stage. In this case hypophosphite of lime was taken for three weeks without improvement. Quinine was then given, and subsequently gentian with soda and hydrocyanic acid, but still without benefit. The patient ultimately left the hospital much worse than when admitted.

Case 11.—Charles B—, æt. 26. Phthisis, second stage. Took hypophosphite of lime for two weeks without benefit, and subsequently bark with nitric acid, and afterwards perchloride of iron. No improvement followed any of these forms of treatment, and the patient ultimately died.

Case 12.—James T—, æt. 40. Phthisis, third stage. In this case the treatment was commenced with iron and phosphoric acid, without evidence of improvement or any material increase of weight. Hypophosphite of soda was then given for a fortnight without any alteration of symptoms, and the patient ultimately left the hospital much in the same condition as when admitted.

In each of these cases the hypophosphite was given in ten-grain doses, in water sweetened with a little syrup, three times a day. A careful and impartial analysis of these cases will be found to give the following results:

Of the twelve patients, four (Nos. 1, 4, 6, and 9) improved, and the rest derived no benefit. Of the four improved cases, each one, without exception, still continued to improve, and in the same ratio, after the hypophosphite had been changed for carbonate of soda. Of the eight unimproved cases, No. 2 gradually became worse, and left the hospital without affording the opportunity for any experimental change of medicine. In Nos. 3, 10, 11, and 12, other remedies were equally unsuccessful with the hypophosphite, whilst in Nos. 5, 7, and 8 there was a manifest improvement in every respect after the hypophosphite had given place to steel and quinine.

The following are the legitimate conclusions from these results: —1. That the alkaline hypophosphites have no claim whatever to to a specific action upon phthisis. 2. That the good they may sometimes effect is altogether due to their alkaline character, and is equally shared by the alkaline carbonates. 3. That, except in cases requiring alkaline treatment, their employment is absolutely harmful, by excluding the use of positive and appropriate tonics.

Hygiene and hope are most important auxiliaries in the treatment of disease, more especially in such a chronic one as consumption; and it is because we cannot, or at all events we do not, properly separate the effect of these two agents from that of physic proper, that we arrive at such different conclusions upon the action of medicine. A vast number of consumptive cases seem to improve directly they enter the Consumption Hospital, no matter what medicines are prescribed for them. They have exchanged the troubles of want and anxiety for the comforts of plenty and repose; they breathe a pure, warm, and healthy atmosphere, to which they have been hitherto strangers; and their minds become suddenly occupied with happy and hopeful anticipations. Others, again, scarcely improve until some dyspeptic complication has been successfully combated, some of these manifestly deriving benefit from alkaline, others from the mineral acid treatment. Some are at once improved by steel; others by quinine, or some other form of general tonic; but if amongst all this uncertainty there be anything certain, it is that there is no real specific for consumption.

If in cases associated with acid dyspepsia, and requiring alkaline treatment, the hypophosphites of lime and soda are often successful, the same may be said of other alkaline salts; and if it be contended that in such cases the hypophosphurous acid is a specific, I maintain that, upon similar evidence, carbonic acid is equally so; it is in each case the base, and not the acid, which is effective.

Some practitioners are in the habit of employing the hypophosphites of iron and quinine, and doubtless with advantage. The citrates of iron and of quinine also are well-known remedies, and are very often useful in the treatment of phthisis, but it is to the base, and not to the acid, that their good effect is attributable. It would be as reasonable to give the due in the one case to the citric acid, as in the other to the hypophosphurous acid.

The hypophosphites of lime and soda are, I repeat, nothing more than simple unirritating antacid salts, suited, just as many other salts of the same class very frequently are, to certain cases of phthisis requiring alkaline remedies, and they have not even the shadow of a claim to special or specific action in any form of consumptive disease.—(*Med. Times and Gaz.*)

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* The following is the substance of a note from Mr. Gill, Resident Clinical Assistant at the Hospital for Consumption, Brompton:—

"Dear Dr. Cotton,—As you have asked me to give my opinion of the action of the hypophosphites of soda and lime upon tubercular diseases, I beg to state that I have taken careful notes of the twelve cases in this hospital which were under your charge, and my decided opinion is that they are useless so far as specific effect is concerned; but that in some cases benefit has been derived from their local action as alkaline salts on the dyspepsias to which some of these patients were subject, exactly the same benefit being derived from small doses of the bicarbonate of soda.

"Yours truly,
"H. C. Gill, M.R.C.S."

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## *The Homœopathic Pharmaceutical Society of Great Britain.*

The usual monthly meeting of the above Society was held at 445, Strand, on the evening of the 19th January. Members have been already advised by private circular of what transpired.

At the Meeting of February 16th, a paper on "Tincture Making" was read by the president, Mr. Ross, and specimens submitted of the results of experiments illustrating the processes recommended. This paper has since been printed by desire for circulation amongst the members of the Society.

It was decided after due consideration that as country members express no desire to avail themselves of proxy votes, it is inexpedient to adopt the proxy system at ordinary meetings.

On the evening of March 16th the question of uniformity in retail prices was partially decided. In order that it may be further discussed, a special meeting was arranged for Tuesday evening, the 30th March, after which the result will be communicated by private circular.

# OBITUARY.

## Dr. John Epps.

As time advances the elder race and early pioneers of homœopathy are falling off one by one. We have now to register the death of one more of the distinguished men of the new school. Some have worked to advance a knowledge of homœopathy chiefly among their professional brethren; some chiefly among the public. To the latter class belongs our departed colleague; and yet it was not exclusively to the general public that he addressed himself, for he also sought to propagate a knowledge of homœopathy among students and practitioners of medicine by courses of lectures on our *Materia Medica*, which he delivered partly at the Hahnemann Hospital and partly at his own house.

He was born on the 15th February, 1805. He was early destined for the medical profession, and after serving an apprenticeship to a surgeon he went to Edinburgh in 1823, where he completed his medical studies, and graduated in 1826. During his sojourn in Edinburgh he contributed to his support by giving instruction in Latin, and it happened, by a curious coincidence, that one of his classical pupils was our distinguished colleague, Dr. Madden. After taking his degree Dr. Epps settled in London, where his natural activity would not allow him to be content with mere practice, but led him to deliver lectures on Chemistry, Botany, and Materia Medica at the Hunterian School of Medicine. He published a text-book on Botany about this period. He was for some time co-editor of the *London Medical and Surgical Journal*, and later of the *Anthropological Journal*, and of the *Journal of Health and Disease*. In 1831 he was appointed Director of the Jennerian Vaccine Institution. He was an ardent believer in phrenology, on which he lectured frequently. Soon after the introduction of homœopathy into England he became one of its most zealous partisans, and endeavoured to spread a knowledge of it among the public by lectures in London and various provincial towns, and by several popular works, such as *What is Homœopathy? Homœopathy and its Principles Explained*, and a work on *Domestic Medicine.* He established a journal for the propagation of the doctrines and practice of the new school, entitled *Notes by a New Truth,* to which he contributed up to the time of his decease. The few numbers of this journal we have seen did not impress us very favorably as regards its scientific or professional character; but as it was addressed to non-professionals alone we have no doubt it fulfilled the intentions of its editor. On first embracing Homœopathy he forwarded some cases to his old friend and brother radical, T. Wakley, for publication in the *Lancet.* They were of course refused, and this gave Dr. Epps an opportunity of publishing the cases, under the title of *Rejected Cases*, with a vigorous letter to the editor of the *Lancet.*

Dr. Epps in politics was always an advanced Liberal, and was as keenly fond of making a speech denouncing tyrants anywhere in the world as of giving a lecture on Phrenology or Homœopathy. He had a great command of words, a fine sonorous voice, and much animation of manner in speaking; though, like many Londoners, he was somewhat uncertain in his distribution of the letter "h."

In practice he was much liked by, and inspired great confidence in, his patients, of whom he had a large *clientèle,* and by whom he will be much missed.

For some years past he had been subject to asthma, and his health latterly had been visibly failing. On the 31st January he was attacked with paralysis, and though he seemed to be recovering from this, an attack of asthma supervening carried him off on the 12th February, at the precise age of sixty-four. He was buried at Kensal Green, amid a large concourse of medical and political friends. A eulogy was pronounced on his grave by one of the latter.

Dr. Epps occupied a large space in the public eye in connexion with Homœopathy, and though he cultivated rather the art of making popular appeals on its behalf than that of addressing his professional brethren, we believe him to have been a man of good scientific attainments, as he was undoubtedly a man of untiring energy and perseverance.

## BOOKS RECEIVED.

*Homœopathy in* 1869, by William Bayes, M.D.: London, Turner.

*The Anatomical Basis of Therapeutics.* An Essay, by William Sharp, M.D., F.R.S.: London, Turner, 1868.

*Letters on Cholera, containing a Refutation of Dr. Johnson's Theory and Treatment by Castor Oil,* by Thomas Skinner, M.D. Liverpool: London, Richards, 1868.

*Lectures on the Middle Ages,* by A. M. Walker, M.A., M.D. Tunbridge Wells, Spiers, 1868.

*Biennial Report of the Northamptonshire Homœopathic Dispensary,* 1868.

*The Homœopathic Directory of Great Britain and Ireland, for* 1869: London, Turner.

*A Manual of Therapeutics,* by Richard Hughes, L.R.C.P. Ed.; M.R.C.S.: London, Turner, 1869.

*Die Homöopathische Therapie,* von Dr. J. Kafka; two vols: Gotha, Eupel, 1869.

*The Philosophy of Eating,* by Albert J. Bellows, M.D.: London, Sampson Low, 1869.

*How not to be Sick, a Sequel to "Philosophy of Eating,"* by Albert J. Bellows, M.D.: London, Sampson Low, 1869.

*Cancer, with Cases Cured,* by Dr. Hastings: London, Turner.

*Remarks on a Pamphlet entitled "Cancer, with Cases Cured,"* by Dr. Hastings, by John Pattison, M.D.

*A New Method of Checking the Spread of Infectious Diseases,* by Charles T. Pearce, M.D.: London, Baillière.

*Concise Exposition of Homœopathy,* by George Newman, L.R.C.P. Ed., M.R.C.S.L., &c; 3rd edit.: London, Turner.

*The Monthly Homœopathic Review.*
*The Hahnemannian Monthly.*
*The American Homœopathic Observer.*
*The Chicago Medical Investigator.*
*The North American Journal of Homœopathy.*
*The Western Homœopathic Review.*
*The New England Medical Gazette.*
*Neue Zeitschrift für Hom. Klinik.*
*L'Art Médical.*
*Bulletin de la Société Homœopathique de France.*
*El Criterio Medico.*
*La Reforma Medica.*
*The Calcutta Journal of Medicine.*

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We are requested to state, with reference to the case of Amputation of the Leg, at p. 144, that the ligatures used were not wire but thread.

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## POST-PARTUM AFFECTIONS.

By J. Lawrence Newton, L.R.C.P. Edin. (Exam.), M.R.C.S., L.S.A., L.M.

The surroundings of the parturient female, no doubt, very materially modify the proclivity to disease, which would appear now-a-days to be almost inevitable to her, after the dangers to which she has been exposed during gestation and the condition in which labour has left her. It may be both instructive and interesting to consider some of the causes which render her more predisposed to disease, whether functional or organic, than when non-pregnant. I would here premise that I use the phrase "*predisposing cause*" in its strict meaning as being a "diseased condition," and in reality part and parcel of the disease itself.

And here, in all probability, I may be met, at the very onset of my task, by the statement that the processes of gestation and parturition are "natural." With this I most perfectly agree, but the neglect of all dietetic and hygienic measures by the patient, and the indifference to suitable medical superintendence, is so great in these days of advancement, that I should be personally delighted to meet with a patient whose condition was a natural one from the time of impregnation to the time of complete convalescence after the birth of the infant.

I shall endeavour in the following cases to prove that the "predisposing causes" to disease in the lying-in woman are of a twofold character, and both naturally, and for the sake of distinction and perspicuity, shall speak of those due I, to pregnancy; II, to parturition.

I. The changes induced by pregnancy are *emotional* and *physical,* and they act and react on one another, intensifying their character and increasing their danger. The sympathetic derangements of the nervous system as shown by modification of the natural temperament, by reflex neuralgic affections,* by disorder of the digestive apparatus, accompanied with morbid appetite, excessive secretions from the mucous membranes of stomach and intestinal canal, are instances of the first class; while the modified condition of the blood and of the circulatory system, &c., are instances of the physical changes which give rise to dangers which may at any time implicate the health and life of mother and fœtus. *The quantity of the blood is from the nature of circumstances necessarily increased;* as of course it is self-evident that the maternal blood, however rich, would be inadequate to the supply of her requirements in her present state. The frequency with which self-styled "orthodox" practitioners have used, with comparative impunity to the mother, venæsection, is a good proof that there is a real as well as apparent general plethora of system. The effect upon the fœtus is, however, often fatal; as I hope to show some day, and in another paper, that the syncope induced by bloodletting or shock has brought on abortion or premature labour, due to the severance of the vital connexion between mother and ovum, whereby it dies and, acting as a foreign body, excites uterine contraction and is expelled.

Unfortunately, *the blood is impoverished* instead of enriched. The investigations of pathological chemists show that during pregnancy we have a condition of blood analogous to that of scurvy or chlorosis, and occasionally one closely resembling that of rheumatic fever. The fibrine has been proved by Gavarret, Andral, Christison, &c., to be, during the first six months, decreased in quantity (*hypinosis*); but during the last three months we have markedly a *hyperinotic condition,* and all the time diminution of the red-globules with increase of the serum. This excess of fibrine is associated with the retention of morbid excrementitious matters, which, acting as irritants to the various viscera of the body, render them peculiarly liable to take on inflammatory action. The pre-eminently dangerous hepatic congestion running into hepatitis and often rapidly fatal icterus; the hyperæmic kidneys with their accompanying albuminuria and greatly to be dreaded convulsions; the congestive brain with headache, delirium, sopor, and often resulting apoplexy and occasional death, are specimens of morbid exaggerations of unduly excited physiological states found in a greater or less degree in most lying-in women, especially primiparæ.

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* Mr. Harmar Smith gives an excellent example of reflex throat dysæsthesia during pregnancy, answering well to *Belladonna. Vide* Journal for January, 1866, p. 122.

*The heart becomes hypertrophied during pregnancy.* This also is a physiological condition, and is due—

1. To the deteriorated quality of the blood, necessitating its more rapid transmission to the several parts of the organism, in accordance with a well-known physiological law.

2. The increased demand for blood which exists in both fœtal and maternal structures.

3. The resistance to the passage of the blood by the diminished capacity of chest, owing to the pressure of the gravid uterus against the diaphragm, and the mechanical distension of abdomen. The general plethora of which most women thus situated complain is due to these causes, but an ingenious and probably partly true suggestion has been made that it may be due to "a kind of reflex paralysis of the blood-vessels, arising from an irritation of the womb, and not to any alteration in the absolute amount of blood." I think there is much truth in this idea, but I am convinced that the blood is actually increased in quantity, for though the chief part of the blood expelled at the birth of the

secundines comes from the placenta and uterine sinuses, the great alteration in the size of the maternal pulse proves that an immense amount of blood has been also lost from her circulatory system.

The pulse during pregnancy is only apparently stronger. It is certainly fuller, but, like the pulse of a patient with a morbidly hypertrophied heart, it would never mislead the careful observer. The sphygmograph bears me out, as far as I have experimented with it, that the pulse of the pregnant female has lost in power while it has gained in frequency and fulness. The palpitations to which she is so liable are frequently emotional, but are as frequently due to organic derangement. And here I would, though I write upon post-partum affections, beg to refer to a case which came under my notice in my capacity of coroner while in New South Wales.

Case 1.—A lady, about 30 years of age, sent for a colleague of mine, at the Singleton Hospital, to visit her and prescribe for some gastric derangement of which she complained. She was between eight and nine months pregnant. After some slight irregularity of diet "she felt sick and giddy and had palpitation." My friend prescribed *an Ipecacuanha* (℈j) *emetic to be taken immediately and a mild alkaline cathartic afterwards.* The emetic was taken and produced a bilious slimy vomiting with gentle diaphoresis, and *complete relief to both head and stomach, but not heart.* About half-an-hour after the effect of the emetic had passed off, and without having taken the prescribed aperient (soda and rhubarb), the lady called to her attendant, saying that she felt faint; and to her horror, stretched out her arms, gave a shriek, and expired.

An inquest was held the next day, and I need scarcely say that it was a foregone conclusion with the general public that the emetic was the cause of death. I was particularly careful to select an unbiassed jury, and had at the post-mortem examination all the cavities of the body searchingly explored. The brain partook of the universal hyperæmia which existed in all the organs of the body, but there was neither effusion nor extravasation visible. The heart was *four times its normal size and in a state of fatty degeneration.* The liver was intensely congested and enlarged, and an incision into its substance caused the exudation of an enormous quantity of blood. The kidneys were pulpy, and the little urine found in the bladder was almost solidified by heat and nitric acid. Decomposition set in very rapidly. I instructed the jury as follows:

1. Death was from the heart and not the head.
2. The emetic was useful in removing the gastric symptoms.
3. The post-mortem revealed ample cause of death.

The jury immediately returned a verdict of "death from natural causes," and my friend escaped, as far as an ignorant and prejudiced public will let any medical man in such a case escape, the unmerited obloquy of manslaughter.

Of course I did not and cannot approve of the administration of an emetic in such a case as this, for I believe that if the cardiac region had been carefully percussed and auscultated (as it ought to have been) sufficient indication of the morbid state of the heart would have been patent to the meanest capacity, and very different treatment adopted. Still it would have been hard to blame an experienced practitioner who in his evidence stated that he had frequently given emetics even just before delivery, and had never seen the slightest ill effects from them, and believed that he could substantiate the propriety of his treatment by the advocacy of the leading members of the profession.

Two thoughts painfully pressed themselves upon me as I rode homewards after this the last inquest at which I presided.

1. What complications would have arisen during parturition had that process commenced?
2. What would have been the nature of the outcry had the lady died under homœopathic treatment?

We see then that we have to expect and obviate as much as possible during the period of gestation—

1. A hyperæsthetic condition of the nervous system.
2. A blood deteriorated in quality by increase of fibrine, decrease of red corpuscles, and the presence of certain

morbid excrementitious matters which are chiefly urea and lactic acid.

3. The hypertrophy of the great centre of the circulatory system, which is but too apt at times to prove unequal to its work, and throw the strain upon some of the great emunctory glands, as the lungs, inducing hyperæmia, pneumonia, bronchitis or bronchorrhœa; as the liver, giving rise to hyperæmia and often fatal jaundice; as the kidneys, which run into a hyperæmic condition with its concomitant albuminuria so frequently associated with convulsions.

4. The mechanical effects of pressure of gravid uterus inducing œdema, with its accompanying debility and reaction upon great internal organs, predisposing with the above mentioned to increase the morbid tendency of the over-worked or clogged viscera.

II. But, unfortunately, parturition instead of diminishing adds to the dangerous state of the female—

1. First and foremost is the *shock of labour*. An examination of the special condition of the nervous system of the most stoical woman, after her first delivery, will, in my opinion, convince the veriest sceptic that it is the result of something more than fatigue, and, alas! we often see the highly sensitive and delicate suffer a life-long martyrdom from the shock. Death even has been known to result from it. The exertion entailed by the parturient process causes such a waste of muscular and nerve-force as would probably render the most robust and active mountaineer debilitated for many days.

2. The hæmorrhage following the expulsion of the placenta adds to the existing debility. This immediate loss of blood is, no doubt, chiefly from the uterine vessels, but the gradual oozing which takes place for many days after the completion of labour is, if not restricted within very moderate limits, a cause of prolonged convalescence.

3. The rapid disintegration* of the superabundant tissues

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* "During the forty weeks of utero-gestation the uterus enlarges from nearly 3 inches in length and 1¾ of an inch in breadth, to 12 or 15 inches in length and 9 or 10 inches in breadth. It increases from about 2 ounces in weight to 25 or 30 ounces. The cavity of the uterus before impregnation is

of the uterus, &c., into fat—partially excreted in the form of lochia, but chiefly absorbed into the blood, and its elimination therefrom by skin, lungs, and kidneys, &c., is a strain upon organs whose utmost exertions, however well directed, are but too frequently only just equal to the task.

4. *The state of the uterine walls* after removal of the placenta presents another source of danger. Simpson compares it to a surgical wound, as after amputation. And such, to a greater or less degree, it is, for though the space lately covered by the adherent placenta is much diminished by the contraction of the uterus, still a considerable surface is presented far from smooth and clear, affording a terrible opportunity for external contamination.*

5. We have also a great amount of *mischief in the pelvic cavity* to be repaired; especially in the cellular tissue surrounding the uterus and its ligaments. This is much bruised and torn, and is extremely apt to run into low inflammatory action.

In the preceding remarks it would be seen that I have abstained from reference to anything connected with labour, which is either difficult, preternatural, or complex. I merely speak of the "puerperal constitution of 1869," if I may be allowed the expression. I believe it to be one of debility, requiring the most careful consideration of all its phases—that it influences greatly the after-health of parent and welfare of offspring, and that it may be beneficially altered by good diet, frequent ablution, regular, occasional active, and constant passive exercise, good air, early hours, avoidance of all mental perturbation, &c.

less than one cubic inch, while at the full term of pregnancy it is extended to above 400 cubic inches; and the surface of the organ increases from about 5 or 6 square inches to nearly 350 square inches. Before impregnation, the uterine cavity would not hold above a drachm or two of fluid; at the ninth month of utero-gestation its contents usually weigh from 120 to 150 ounces." —SIMPSON.

* Dr. Duncan believes that "at no time during pregnancy, or after it, is the decidua thrown off in mass, or the muscular tissue denuded; and that after delivery, the persistent layer of mucous membrane is found to be thicker at the site of the insertion of the placenta than elsewhere." This is no doubt true, but we frequently find this persistent membrane and even muscular fibres ruptured after delivery.

We cannot feel surprised, allowing the truthful nature of the above remarks, that numerous functional and organic derangements should crop up after delivery. The slightest jar to the harmonious progress of the case may give rise to evils of greater or less magnitude. I purpose to consider some of them.

*Retention of urine.*—Urination usually takes place within twelve hours after delivery, and when postponed beyond that time requires investigation, and will be found to be due to—

1. Over-distension of the bladder consequent upon delay in attempt to micturate.
2. Over-distension due to hysteria; or,
3. From paralysis of the detrusor urinæ.

Case 2.—Mrs. A—, æt. 34, who had had three children previously, was attended by me in a normal easy confinement some five years ago. She was of a mild placid temperament, and somewhat apt to shirk, as much as possible, the exertions which usually fall to the lot of persons in an humble position. I visited, as is my custom, my patient within twelve hours of the birth of the child, and was assured by the ignorant nurse that the "water was all right."

On the following morning I found high febrile action, as shown by quick pulse, hot skin, flushed face, headache, shivering, &c. She had had a sleepless night, partially on account of restlessness, but chiefly from violent after-pains, which were attended with the discharge of large black clots, "causing as severe pain as the birth of the baby." Pressure on the hypogastric region made Mrs. A— flinch greatly, and detected to me the presence of a distended bladder. I gave her *Bell.* 12 every ten minutes, and waited in an adjoining room for half an hour, and had the pleasure of being told by the nurse that she had passed "a pot full of water." The relief to the patient was, I need scarcely say, very great, and she made an uninterruptedly good recovery. She afterwards told me that nurse had said that "Dr. Newton always made a great fuss about the water, and there was no occasion for it."

Now, I have no doubt that the distended bladder in this case caused retroversion of the uterus, and that the after-pains were mechanically due to the abnormal position—that if the nurse had insisted upon Mrs. A— attempting to micturate, all trouble would have been avoided, and that if the *Bell.* had not acted it would have been necessary to employ the catheter perhaps for several days. Since this time I have beneficially used *Bell.* 12 in six similar cases with equal success. Should it fail me I should resort to *Bell.* 30, so highly spoken of by several of my colleagues. I think, however, that "prevention is better than cure," and that over-distension from non-attempt to urinate would never occur if medical men could only get nurses and patients to see the necessity for so attempting.

Case 3.—In 1863 I attended a young primipara who had been married only ten months, and considered she was six months pregnant. She was of a hysterical temperament, and had several "fits of crying and laughter, and upbraidings of husband and medical attendant" before delivery. The labour was not unduly prolonged, but the patient was fidgety and restless afterwards. I told mother and nurse to insist upon the patient passing water, but on my visit twenty-four hours after delivery (she lived ten miles from me) I found she refused to make an effort. Her reason was "because there was no water in the bladder." The bladder was largely distended, however. I gave her gr. ij *Sacch. lact.* every ten minutes dry on the tongue "to force the water," and told her I should have to draw it off in half an hour if she did not pass it unaided. After second dose of medicine she was relieved of an enormous quantity of pale-coloured urine. I have not met with more than one other such case of hysterical retention of urine, but am always on the look out for it, and never expect to find anything further requisite than

(*a*) The "suaviter in modo," and

(*b*) *Saccharum lactis sæpissime.*

Case 4.—I was requested in 1865 to meet a friend in consultation on a case of instrumental midwifery. The head had been firmly pressing on the perineum for some four hours, but, notwithstanding my friend's request to be allowed to use the forceps, the patient and her husband would not allow it. (The true reason was that they were both patients of mine, and had been obliged to call my friend in in my absence when sent for.) I passed an elastic catheter, and drew off a considerable quantity of dark foully smelling urine. The blades of the forceps were easily passed and locked (the head at outlet in second oblique position), and speedily effected the birth of a large living child. Fomentations with weak arnica solution were assiduously used, but the use of the catheter was necessary for fourteen days. I then used *Bell.* 12, but without avail. *Nux vom.* 6 also was useless, and I have no doubt the "physiological rest" given to the detrusor urinæ by the catheter was the real curative agent.

It may be thought that the forceps caused this complication. I think not, for the following reasons:

(*a*) The head of child had been stationary for at least four hours.

(*b*) The urine that I drew off was high coloured, and by its smell proved that it had been retained in the bladder some time, and therefore that in all probability the neck of the vesica was considerably bruised.

(*c*) The forceps was easily applied; the vagina was ample and relaxed; and perineum not rigid.

1. *Incontinence of urine.*—This sometimes presents itself as a part of that protean form of disease—hysteria. I have only met with one case of it, and as it was in consultation with an allopathic practitioner who pooh-poohed the use of my homœopathic remedy, I advised gr. v micæ panis 2ta qq. hor. and galvanism to the lumbar region. The next time I met my friend (two days afterwards) he extolled the virtues of galvanism. I have no doubt the moral treatment was that to which the result should be attributed, for she passed water freely before being galvanised, though she would not tell her medical attendant.

2. *Incontinence of urine from paralysis of the sphincter of the bladder, the muscular coat retaining its contractility; from spasmodic action of the muscular coat;* and lastly, *that due to complete cystoplegia,* have all been met with, and

require to be closely differentiated before they can be scientifically treated and quickly cured.

Case 5.—*Incontinence of urine from paralysis of sphincter vesicæ.*—I was called in by a medical man to see a patient of his, in 1864, who had been delivered of an illegitimate child. The labour had been satisfactory, and the getting-up good, with one exception—the urine had constantly dribbled away. There was not any evidence of the hysterical diathesis. I made an analysis of the urine, and found it normal in quantity, reaction, and constituents. The diagnosis which had been given was paralysis of the bladder, but on introducing a catheter I found the urine forcibly ejected, and after the bladder was quite empty, the instrument was thrust out by muscular action some feet. The prescription was *Arnica* injection (ʒj to ℥viij) three times a day, and quarter-drop doses of mother *Tincture of Arnica* every four hours. This was continued for three weeks, and the patient regained full power over her urine, though before the adoption of this remedy the inconvenience complained of had existed ten weeks. I was led to use *Arnica* by the connexion of the trouble with the confinement, and also by symptom 281—"Tenesmus of the bladder, *the urine dropping out involuntarily.*"

2. *Incontinence from spasmodic action of muscular coat,* the sphincter being intact.—Here we may have an abnormally acid urine, which, by its irritating properties, gives rise to immediate effort at expulsion. The constitutional derangement indicated by this state of urine is the gouty or rheumatic. One well-marked case I will here relate.

Mrs. —, a Jewess, of highly luxurious habits, æt. 34, was attended by me in 1866 during an unusually good (for her) accouchement. Everything progressed favorably until after the cessation of the lochia. She then began to complain of dyspepsia, hot urine, and general irritability of the system. The urine was of high specific gravity, and very acid; loaded with lithates.

On inquiring into her diet I learnt that she partook freely of ale and porter, port-wine and second-made dishes. This I altered, and gave her *Bryon. alb.* 3 every four hours.

Under this treatment she gradually became worse, and the urine passed day and night without her being able to control it. It assumed a more irritating character, and excoriated the thighs. I now gave her *Bell.* 1 ter die, and she soon was quite cured.

3. Of *incontinence of urine from paralysis of the bladder*, I have not met with a single genuine case after parturition. I should not, however, despair of a cure, unless the kidneys were seriously implicated; for I can call to recollection two cases of paralysis of the bladder of long duration, where a low dilution of *Secale* was rapidly curative. I should strongly advise the employment of galvanism to the interior of the vesica if homœopathic medication failed.

I have purposely omitted all mention of vesico-vaginal fistula, &c.; it is obviously beyond the control of medicine, and belongs to the domain of surgery.

Case 6.—*Retention of fæces.*—I use this phrase in preference to the word *constipation.* It corresponds to the analogous condition, retention of urine, and is, I believe, very rarely met, and is invariably a symptom of the hysterical temperament. It is more readily avoided than cured, as most of the complaints we have to deal with in such patients. I have only seen one case, and have not met with any notice of it in books.

Mrs. B—, æt. 39, who had only been married fifteen months at the period I attended her, had a tedious labour, which, however, terminated well for both mother and child. The friends strongly objected to chloroform, or I have no doubt great suffering and considerable time would have been saved. The "pains" were so severe that she could not make any expulsive effort. On the third day she insisted upon taking half an ounce of castor-oil, which she repeated next day unknown to me. This excited vomiting and considerable pain in bowels, but no action. The urine was free, but pulse became accelerated, skin hot, and face flushed. On fifth day the bowels had not acted, and I advised an injection, to which she was very adverse. The abdomen became tympanitic, and tongue brown. She then described her feelings to me as follows:—"I believe my bowels would have acted naturally, but nurse kept teasing me to try; but as she stayed in the room I could not make an effort, and when she was absent I was so afraid lest she should return, that I could not get any relief. And even now I seem in such dread of nurse, or any one else coming into the room, that I do not believe I shall ever have a motion." I calmed her down to the best of my ability, explained matters to nurse, and sent her *Ambra Grisea* 3, gtt. j 2dâ qq. horâ. In the course of the day the bowels acted, and the patient was fully relieved. My reason for choosing *Ambra Grisea* was because of the distended abdomen, and "frequent tenesmus; no stool; this gives her a good deal of anxiety; during this time the *neighbourhood of other people is intolerable to her.*"

It may be a question of *post* or *propter* the *Ambra Grisea*; I think as the oil had failed that it was *propter*, especially as "*Ambra* appears to improve stool which had been delaying heretofore." At any rate, I think the case worth putting on record.

(*To be continued.*)

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# NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM AFFECTIONS OF THE RESPIRATORY ORGANS AND LUNGS.*

By John N. Casanova, M.D.

(*Continued from page* 198.)

## Bordeaux.

Properly speaking the South of France begins in the department of *la Gironde*, between 44 and 45 degrees of north latitude, the capital of which is the old, the opulent, and the large mercantile town of Bordeaux, containing about 200,000 inhabitants, and situated in the centre of a bend of the River *Garonne,* formed in the shape of a crescent, about fifty miles distant from the sea, as the crow flies, from east to west, and in the "latitude 44° 50′ 19″ north, and 2° 54′ 56″ longitude west from Paris."* But Bordeaux itself does not profess to be a winter station for the cure of chest diseases, although some parts of the town and its neighbourhood may be adapted to particular temperaments, if their ailments are not too far advanced, and for convalescents particularly, who may pick up strength by a judicious selection of the spot, and by careful attention to atmospheric vicissitudes.

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* And when the admixture happens to be of one or more temperaments from either of the two mentioned groups, for instance, the nervous with the lymphatic, or the sanguine with the atrabilious, &c, then *the one* which prevails over the others will likewise be the type.

Nevertheless, although Bordeaux has not the reputation of a winter resort, I shall endeavour to draw out a few lines in order to give an idea of what an invalid may expect to find in that city, which would be a very convenient resting place, in case he should not be able to continue his voyage further south; and to delicate northerners who, not being altogether invalids, require a milder and shorter winter than they have at home.

To describe Bordeaux otherwise than climatically would be trespassing the limits of these pages. I leave it to the reader to consult geographical works to ascertain its history, commerce, agriculture, industry, monuments, and other objects proper to a continental city of first order, whose antiquity and opulence dates beyond 2,000 years. The "Nouveau conducteur de l'etranger à Bordeaux" (the stranger's guide), may be consulted with profit, which can be had at Mr. P. Chaumas, 34, Cours du chapeau Rouge, Bordeaux.

Attempts have been made to show that the mean winter temperature of Bordeaux is lower than that of some parts of the south and south-west coast of England, notwithstanding its geographical position which is some degrees further south; but it can be proved that, although it freezes sometimes very hard, the duration of frost is a very short one indeed; and, therefore, the maximum heat of the three really winter months (December, January, and February) is much higher and longer in Bordeaux than in either of the places with which the comparison has been made. Moreover, the natural productions of the soil prove the high degree of temperature with which that fertile and luxurious country is endowed in all seasons of the year. This agrees with the Poet Ausonius' Latin description of the climate of Bordeaux, his native town, when he said:—

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* *La France Illustrée,* No. 31, page 9.

"Burgalia est natale solum; clementia cœli
Mitis ubi, et riguæ larga indulgentia terræ;
Ver longum, brumæque breves, jura frondea subsunt."

Which is freely translated as follows:—"Bordeaux, my birthplace, where the temperature of the sky is mild, and great the fertility of the watered earth. Long is the spring and short the winter; and close at hand are wood-crowned eminences."

But the true temperature of a climate cannot be exclusively measured by physical instruments. It is the physiological impression produced on the most delicate and sensitive organism that we have to appreciate, let the scale of the thermometer be high or low. By that physiological impression we are able to feel less cold, at the low temperature of 25° F., which very seldom happens in Bordeaux, than at 30°, or even 35°, in England, owing to some peculiarities of the climate, independent of those agents which make cold weather to be more or less felt, at times, among which the velocity of the wind is the principal one, as it has been observed in Ross and Parry's expedition to the North Pole, where 25° centigrade below freezing point was less felt when in calm than 15° with a breeze.

With all its climatic advantages of a southern town, Bordeaux possesses some of the characteristics of an inland-mixed climate, where exciting phenomena predominate. It is, therefore, requisite to watch the frequent changes of the weather in winter and spring and the transitions of temperature which take place in a short time during the day. With due precautions an invalid, or a person very susceptible to sudden changes, will get on very well, provided the locality is well chosen. No town in the south of France offers so many advantages as Bordeaux, in every respect. Excellent hotels, comfortable lodgings (furnished), where all the French luxuries and many of the English comforts may be secured on reasonable terms; fine walks, parks, and drives; social recreations and public amusements of all kinds are at hand, and of easy access, which contribute to restore the invalid's sufferings, if used without abuse.

But some medical men object sending patients to large towns, where the "excitement and fatigue of sight-seeing, the gaiety, and the exposure to extreme temperatures, which a residence in them commonly involves, render them unfit winter stations." (Dr. Williams *on the Climate of the South of France,* page 84.)

It is the invalid, not the town, that is to be blamed; so long as he abuses the gaiety and all its advantages, the right use of which are in some measure necessary adjuncts to the restoration of his health; for there are invalids who require something more besides climate to alleviate their sufferings, and to dissipate the monotony of winter and solitude. Patients who cannot resist temptation, and forget the object for which they have been exiled from home, and foolishly expose themselves to fatigue and to atmospheric vicissitudes, are unfit subjects for large towns. They ought not to blame the climate, but themselves, if they are injured by it, for their imprudence and disregard to their health. I have known delicate and very sensitive subjects to cold, belonging to the second temperamental group, who arrived in Bordeaux, from the north, in the month of February, 1867, in a very poor state of health, to enjoy the climate and all the advantages of the town, by which they were encouraged to remain, finding the place to agree with them. Some of these persons went to Bordeaux to embark for Madeira, while others were detained by their medical advisers on account of their delicate state of health in which they arrived there from England, which prevented them from going further south, as they intended. With the exception of one, who had to be sent to Arcachon, the others were suitable subjects for the climate of Bordeaux, and their health was very much improved whilst there.

Besides the advantages already named there is, in Bordeaux, a large medical staff of all creeds and of different nations; an excellent hydropathic establishment, kept by its proprietor, Dr. P. Delmas, situated in the most salubrious and beautiful part of the town, known by thename of Longchamps, adjoining the public gardens, where boarding and lodgings may be had with first-class medical advice, on reasonable terms. I avail myself of this opportunity to acknowledge the hospitality, attentions, and civilities bestowed on me by Dr. Delmas and his family during my residence in Bordeaux.

I am also indebted to Drs. Finella and Conqueret, homœopathic physicians, practising in Bordeaux, for their kind medical attendance and advice; and B. Alvarez, Esq., the consul from Peru's friendly services will never be forgotten.

Miss Crow keeps a first-class English boarding and lodging house, No. 3, Place Bardinau, in a very healthy situation, adjoining the public garden, with access to its well laid-out grounds, well exposed and open to the south, and on very reasonable terms.

There is a very comfortable place where a friendless invalid, with limited means, may obtain boarding and lodging with attendance and medical advice for six francs per day. That place is the well-kept and excellent hospital, Saint André, built at the cost of two millions of francs (£80,000), attended by a first-class medical staff, and by the sisters of charity of Saint Vincent de Paul, where private apartments for paying patients, besides the public halls holding 700 beds, may be secured. I know an English clergyman who took rooms in that establishment for his health, and was very much pleased with the kindness received from all its employés.

Invalids arriving in Bordeaux should avoid being near the river. The west and north parts of the town are preferable in all respects. I would recommend Miss Crow's house and Dr. Delmas' hydropathic establishment, as good and comfortable private resorts. Invalids are not bound to be treated by the system adopted in the latter place. Dr. Delmas will be pleased to give his advice according to the nature of the case.

Besides the advantages Bordeaux offers for a winter residence, there are many rural spots for spring and summer excursions at a short distance from town, among which are Le Parc Bordelais et Jardin d'Acclimatisation, La Renaissance, and les Deux Ormeaux, west of the town; Monrepos to the east, on the other side of the river, where is a spring of ferruginous water, not much used, although its excellent qualities, which have been ascertained clinically, are at the disposal of the public gratis.

### ARCACHON (*Gironde*).

The primitive town of Arcachon, called "la Ville d'été," is situated in that strip of sandy land on the south-west coast of France known by the name "les Landes," which stands between the rivers Gironde and Adour, about 100 kilomètres from the mouth of the former, and 120 from the latter, just about the centre of the tempestuous Bay of Biscay, called "le Golfe de Gascogne." It has the beautiful and pacific inland sea (basin) bearing the same name on the north, and the magnificent maritime pine forest (*Pini Sylvestris, L.*), with many other evergreen trees and shrubs on the south; and it stands about 12 kilomètres from the Atlantic Ocean, in 44° 39′ 30″ north latitude, and 3° 30′ 00″ longitude west from Paris, 642 from the imperial capital of France; 59 from Bordeaux, and 170 from Bayonne.

The extent of the bay is about 20 miles long by 10 wide, or 80,000 mètres, périmèter, according to l'Abbe X. Mouls, on the "Port d'Arcachon;" and it is deep enough in the channels to allow the largest ship to come in. Its water is considered to be more salt than the Mediterranean or the ocean, the quantity of chloride of sodium has been ascertained to be 27·965 grammes in one litre, besides other salts which give them a great medicinal power for bathing purposes; the water of the Atlantic and the Mediterranean sea being only 25·10 grammes in a litre. There is an island in the middle of the basin called l'Ile des Oiseaux, containing about 250 hectares of pure sand soil, inhabited by a few fishermen and a great number of rabbits and birds. Fishing and shooting excursions are made to it by obtaining a permission from the keeper.

The natural configuration of the meridional coast of that bay, for more than four miles long, upon which the lower town is built, gives the houses different aspects, which vary from east to north and from north to west, and exposes those facing the two first-named cardinal points to the cold winds blowing from those quarters; whereas the houses on the upper town, having a free southern aspect, are sheltered from those winds by the thick forest and sandy hills, and also from the west and south-west gales, which, although violent and frequent in winter, are the less felt in both towns for the reasons already stated.

The history of Arcachon is of the present day. According to Lacou's guide (*Guide Historique et Descriptive du Voyageur,* 1856), Arcachon was in 1840 nothing but a savage and deserted beach, only inhabited by a very few fishermen, and frequented by some rosin-gatherers (résiniers), who went there at certain seasons of the year to gather the rosin from the pine trees which at that time shaded the fine sheet of sands on which buildings of every description and size are erected now.

According to the same authority, Arcachon has grown in less than fifteen years more than many large cities in fifty. It was after 1844 when the railroad from Bordeaux to La Teste, a distance of fifty-three kilomètres from the former place, was open by the compagnie des chemins de fer du midi, that Arcachon, then a poor fisherman's village, attractive by the superior qualities of the highly salt water of its magnificent bay, together with the fine sand beach, the softness of the maritime air, the aromatic and mild temperature of the pine forest, that Arcachon began to be visited by the inhabitants of Bordeaux and other places of France as a summer watering-place only, and that its scattered huts were gradually converted into more regular and comfortable dwellings.

In July, 1857, the railroad from La Teste was extended to Arcachon, a distance of six kilomètres from the former place. Since that time the lower town assumed the name of "la ville de la plage," and became "la ville des baigneurs et des touristes, la ville avec la foule et toutes les élegances, et tous les plaisirs."

By a grant from the government of several hundred hectares of land given to the already named company, the corporation, conjointly with the enterprising capitalist Emile Pereire, Esq., of Paris, undertook, in 1862, to plan out the upper town, called "la Ville d'hiver," and to build villas and places of recreation, which will hereafter be described, all for the comfort and entertainment of visitors, whether ill or in good health.

The lower town extends now no less than 7000 mètres—about four miles—nearly east and west from the point called Aquillon, along the meridional border of the bay, to the magnificent Villa Pereire, and about 400 north and south from the sands to the northernmost boundary of the casino grounds where the upper town or Ville d'hiver begins, and forms a level maritime and a neutral zone containing an area of 2,800,000 square mètres, within which there are seven avenues, two cours, one boulevard, and one square.

The main street, which is called "le Boulevard de la Plage," is the most busy part of the town, where the principal shops, hotels, cafés, and restaurants are to be seen in summer crowded with strangers.

There are in that town more than 1500 houses inhabited by no less than 2000 residents in winter (the number of bathers in summer has been reported to be in 1863 the enormous number of 280,000. Dubarreau's *Guide* for 1864), and some public buildings, such as the railway station, the gas and water works, the bathing establishment, hot and cold, the theatre, post office, the buffet chinois, or refreshment room, annexed to the railway station, the Protestant chapel, and two Roman Catholic churches—St. Ferdinand, and Notre Dame d'Arcachon.

Among the private houses there are the Château Deganne, the Villa Grangeneuve, Count de Monteau's Hotel, the charming cottage of Madame la Marechale de St. Arnaud, the delightful Retreat of Madame la Baronne de Tartas, the Logis of Mr. Noel, the princely châlet of Mr. Johnston, M. Labouret's suisse reproduction, Madame Lopez-Dubecq's kiosques dorés, le Jardin fleuri de M. le Baron Portal, the Idylle de M. le Viscomte de Coury, the comfortable mansions of Dr. Hameau, Amiral d'Attainville, M. de Plaisence, Maire of Arcachon, and many more picturesque villas and pavilions of different styles. Fuet's *Guide to Arcachon*, 1866.

There is an artesian well 126 mètres deep, bored through sand, gravel, clay, and lime, near the railroad station, which supplies fine potable water to both towns, the upper particularly. The water rises naturally to the surface at the rate of 400 cubic mètres every twenty-four hours, and is forced up by means of a 24-horse steam engine to two reservoirs situated on the top of a sand hill, about 330 mètres distant from the well, and 58 high, above the level of the basin. Those reservoirs are capable of containing 396 cubic mètres of water,* which is conducted by means of pipes to all the houses belonging to the société immobiliere, and others, and sold at the rate of twenty-five francs per annum for 125 litres a day, which are reckoned by means of a meter. The society's tenants have as much as they require gratis; but other consumers pay a rent in proportion to that standard.

The gas works are annexed to the artesian well, and gas is conducted to all parts of both towns, and sold at the rate of 45 centimes of a franc (about 4½d.) per cubic mètre (5s. 6d. for 1000 cubic feet).

The buffet chinois, or railway station refreshment room, is built to resemble a Chinese temple, and contains spacious and elegantly furnished saloons, where meals are served in the best style privately and at table d'hôte. Apartments may also be had at various prices per room.

The GRAND HOTEL, which is the best in the place, is situated in the centre of the lower town near the basin, and opposite the casino. It is a splendid building in every respect, and constructed after the model of the Grand Hotel of Paris, containing all the comforts characteristic to a first-class establishment of the kind. Rooms from 3 to 10 frs. a day. Dinner 3.50; breakfast 3 frs., attendance 1 fr. per person. Firewood in winter extra.

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* A cubic mètre is equal to 1000 litres or about 250 gallons.

There are five or six others with as many restaurants, cafés, and boarding-houses, some of which are very well kept. Their prices vary from 2 to 6 frs. per room; dinners and breakfast à la carte. The boarding and lodging-houses take in boarders and lodgers at from 6 to 8 frs. per day, all included.

Two large bathing establishments are located in different places on the border of the bay, where salt and fresh water baths, hot or cold, may be had at a minute's notice.

There is no lack of shops of all sorts where ladies and gentlemen may be supplied with their necessaries. There are also two agents' offices for letting out furnished houses and lodgings, where all the information will be given gratis. Also a market place well supplied with all kinds of provisions brought from Bordeaux principally, and sold at pretty good prices.

Several livery stables, where carriages and horses as well as donkeys may be obtained at conventional rates. Also boats for rowing or sailing on the bay, and for fishing parties, can always be procured by the hour or by the day.

Let us now ascend to the upper region, la Ville d'hiver. This forms an undulating ZONE, la zone de la forêt, parallel to the maritime and neutral zones. It contains an area of 666,000 square mètres, that is to say, 370 in breadth from the Cours Desbieys to the forest, north and south, or at least to the southernmost house now built on that extensive woody tract of land, and rises from five to sixty mètres above the level of the sea; its length being 1800 mètres from east to west, that is to say, from the buildings known by the name of "les musiciens," to the Villa Pereire and Park of the same name. These figures, added to those of the maritime and neutral zones, will give an aggregate of 3,466,000 square mètres of ground, on which there are about 40,000 mètres of well laid-out and well-drained carriage roads, constructed at the expense of 12 frs. per square mètre, through the thick pine forest, on the soft sand with gravel and stone brought from Bordeaux.

The roads leading to the villas are almost all lighted with gas, and both abundantly supplied with soft water from the reservoirs spoken of in the preceding pages—both for domestic use and for irrigation.

There are no regular streets in the new winter town. Three avenues and about twenty nameless carriage roads, which in a few years will become streets, lead to the fifty detached villas and châlets scattered about the forest. They principally occupy the retired dells: twenty-one belong to the present société immobiliere; eighteen to M. Pereire, and eleven to private individuals; and bear the name of celebrated men of different countries, such as Franklin, Shakespeare, Descartes, Humboldt, &c. &c. In building them care has been taken to fell no more pine trees than what were necessary to clear the ground for that purpose, and to allow the rays of the sun to shine upon those built for winter, and to shade others constructed exclusively for summer residence.

Most of those villas are constructed of freestone, and built after different styles, Swiss, Oriental, Italian, &c. &c. They are surrounded with gardens, and the interior distribution is, with a few exceptions, all but comfortable for an English invalid. It is, however, contemplated by the société immobiliere to remedy the deficiencies in the future. "Il est indispensable," says Dr. Hameau,* "de mettre dans les habitations tout le confortable que les malades sont en droit d'exiger: murs épais ou double murailles; galeries vitrées, enveloppents des étages entiers, et double fenêtres partout ailleurs; calorifères pour entretenir une douce chaleur dans les vestibules et les chambres non habitées; tapis épais jusque dans le moindre réduit; prises d'air

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* Dr. Hameau is a resident physician of Arcachon, and inspector of the sea-bathing establishment, who wrote two pamphlets on the climate of that place entitled—1st, *De l'Influence du climat d'Arcachon;* and 2nd, *Notes de climatologie Médicale, sur les Stations du midi de la France, &c.*, 1866.

exterieures alimentant les foyers; ouvertures des chambres ménagées pour éviter les courants d'air," &c. &c. With the exception of the Grand Hotel and a few private houses there is nothing of the kind as yet introduced in dwellings to be let to English invalids.

In reading Dr. Hameau's requirements for comfortable buildings any one would suppose that Arcachon is a very cold climate; but that is not the case. Houses built in meridional countries for summer principally, as those in Arcachon, would not do for invalids in winter, unless they are prepared for such persons and for that season, in which the least degree of cold is felt much more in doors than out. "Dehors c'est assez bon," said a sufferer; "mais dedans, j'ai beau entasser le bois dans toutes les cheminées, je ne parviens pas à me réchauffer."

As in Bournemouth, the custom of building terraces of town-like houses, and arranging the dwellings in streets, has been wisely avoided; and it is to be hoped that such a custom will never be introduced in Arcachon, for "while the charms of a rus in urbe all can feel, every one must deplore the wretched mistake so often made in planning a country or waterside retreat as an urbs in rure." (Brannon's *Guide to Bournemouth.*)

The CASINO, which is the bond of union between the two towns, is built on a table eminence, about 400 mètres distant from the border of the bay, and 24 above its level. That splendid building stands on a well-cultivated piece of ground containing nine hectares, covered with lawns and great many flowers and plants of all climates luxuriantly growing in the open air at all seasons of the year. It is a moresque construction, half palace and half temple, partaking of the ALCAZAR OF SEVILLE, and of the MOSQUE OF CORDOVA; but principally after the ALHAMBRA of GRANADA, and commands a splendid view of the lower town, the basin and the coast of Languedoc. Its interior is well distributed, richly painted and decorated. There are many fancy gaseliers well ornamented. When lighted they produce the most brilliant effect all over the different departments above. The basement contains a DIVAN with billiard, card, and smoking rooms, similar to a regular Constantinople café. It is full of life in summer. Visitor and residents find there all sorts of amusements—concerts, plays, balls and fireworks in the evening, and many other recreations during the day. But in winter it is closed. Strangers who resort to Arcachon during that season to escape the inclement weather of the north, have recourse to that establishment as a place of rendezvous, of promenade, and of news. There they have access to many papers, French and English, and periodicals in the same languages, which may be read for a daily, weekly, or monthly subscription of a moderate sum, excepting the society's tenants, who are admitted free of charge from 9 a.m. till 6 p.m. There is also a bibliothèque in the basement containing several hundreds of French and English books. Subscribers are allowed to take them out, as in the circulating libraries of England.

An attempt has been made to introduce some musical soirées and theatrical performances in winter, but it has failed, because invalids in that season cannot venture to be out of doors at night. Matinées musicales, or other daylight entertainment, would have had better success.

Within the casino grounds there is the PAVILION MOZRAT, where popular concerts are given, and all kinds of refreshments served only in summer. There is also a theatre called ST. CARLINO, exclusively devoted to children. It is open every day, and the spectators of POLICHINELLE have the privilege of being admitted gratis. Besides that place of infantile recreation, there are several open-air amusements for the million, and a Tir au pistolet et à la carabine.

Next to the casino in point of buildings comes the sumptuous VILLA PEREIRE, the summer residence of its proprietor bearing the same name, which, together with its extensive and luxuriant park, may be visited by strangers in winter only, by applying to the agent M. Gaussens. It requires a whole volume to describe that beautiful construction and its charming grounds. This property, which follows the curve of the southern border of the basin, forms the westernmost limits of both towns. They cannot extend further in that direction on account of the water of the basin and Atlantic Ocean north and west; but there is the extensive pine forest on the south and east of more than twelve kilomètres long.

There is an establishment called "la BUVETTE de Seve de Pin," where the sap of the pine tree is extracted by an ingenious process, and served to invalids on the spot, and sent to their lodgings if required. Many persons suffering from different affections of the respiratory organs have derived much benefit from the internal use of the pine sap, whose chemical, physical, and therapeutical properties are described in a prospectus which is handed to visitors and customers, by the proprietor M. Dupuy, who has been kind enough to furnish me with much information on the subject, and on the meteorological observations he keeps of Arcachon.

Close to the casino, on the top of a sand hill, will be seen a skeleton iron construction, thirty-five mètres high above its own ground, or seventy above the level of the basin, called 'L'OBSERVATOIRE ST. CECILE.' Visitors wishing to have an excellent view of the surrounding country and ocean, may do so by ascending to the top by a spiral staircase containing thirty steps. A man is always in attendance to receive a small fee for admittance.

In a greenhouse belonging to the société will be seen many delicate plants kept there during the winter, which are laid out in summer on the casino grounds for ornament.

The offices of the société and M. Pereire's domain are also near the casino, where every kind of information respecting villas and lots of ground to be sold or let may be had gratis.

La passerelle Sainte-Paul is a suspended overland iron bridge, 150 feet long, built over the main road, between two sand hills about thirty to forty feet high, to facilitate crossing from the casino grounds to the Observatory Sainte Cecile, instead of going round the hills by the main road.

There are no hotels in the Ville d'hiver; two private boarding and lodging-houses supply good accommodation to visitors who do not wish to keep an establishment.

Their charges are from eight to ten francs per day, everything included, except firewood in winter.

The college of St. Ferdinand, although not in the upper town, is not very distant from it, and partakes of the same local advantages characteristic to the forest. It stands about 1150 mètres from the musician's lodging buildings, and about 440 from the plage. Primary and secondary instruction is given in that establishment to young gentlemen who may remain as resident boarders and lodgers. Boarders only, and extern pupils, are also admitted on reasonable terms.

There are also several schools for both sexes conducted by qualified teachers, particularly for young ladies, who may board in the establishment if wished.

It is worth knowing that all the buildings and local improvements described in the preceding pages, to be seen now flourishing in the winter town, have been completed since 1862, when it was planned out by M. Pereire and the railway company (la compagnie des chemins de fer du midi), till May, 1866, when the said company sold their interest in the concern, to the present société immobiliere, for the sum of two millions of francs, which are divided in 4000 shares of 500 francs each, M. Pereire remaining independent possessor of his domain, which, as before stated, consists in his mansion and park; his villas and building plots of ground amounting to many hectares of land.

To La Société immobiliere d'Arcachon, a responsibilité limitée, belongs the property consisting in the grand hotel, the buffet, the casino, the water and gas works, the observatory, twenty-one villas, the workshops, stores, and a large number of building lots; and a conseil d'Administration, composed of a director and ten members, has the entire management and control of the financial department and affairs.

Both towns, la Ville d'été and la Ville d'hiver, are governed by one and the same administration municipale, presided over by the maire and composed of eleven members, "conseilliers," and one secretary, the police, and two "sergens de ville."

There are six qualified medical men (French) and two well supplied pharmacies, and a good opening for an English resident physician.

The topographical situation of the area, containing an aggregate of about three millions and a half of square mètres, within which the lower and upper towns are built, is very advantageously located, in a sanitary point of view. Its aspect also leaves but little to desire. Surrounded as it is by dunes or sand hills, no storm that rages over the Atlantic ever raises waves in the bay; and while the sand hills are just enough to act as shelter, they are not sufficiently elevated or abrupt to give rise to squalls or to generate cold winds. In addition to the sand hills or dunes, the north-east, the east, and south, are belted by an almost interminable forest of pines of great size and height.* . . . Such a locality, it must be observed, is also free from the vicinity of high mountain ranges that might pour down upon it cold, dry, or harsh air, as it does near the Pyrenees and the Alps.

Having thus described the topographical situation of the winter and summer towns, their different localities, buildings, &c. &c., it remains now to give an idea of the physical character of the climate of each respective place.

In M. Dubarreau's *Guide*, 1864, page 41, the following assertion occurs :

"Aucune ville d'Europe, disent les médicins, n'offre un ensemble de conditions plus favorables à la cure des maladies de poitrine, au retablissement des temperaments faibles, lymphatiques épuisés, qu'Arcachon." My personal observations will show how far the above assertion is true.

I saw nothing on the earth or in the air that is capable of deteriorating the atmosphere of the Ville d'hiver in the forest of Arcachon. On the contrary, I believe that everything tends to its perfection, in point of salubrity, except the superabundance of ozone, which is very great at times, and tends to produce aggravations in delicate subjects who are too long exposed to its effects. The geological formation of the soil being more than forty mètres deep, of a very fine sand, reposing on gravel, shells, lime, and clay; and the natural declivity of the hills, valleys, and dells, facilitate instantaneous percolation. Therefore, stagnations are seen nowhere, except in a few spots in the ville d'été, and on the border of the basin towards the eastern extremity of the lower town, where the soil is low and subject to the ebbing and flowing of the tides. On the other hand, the air of the atmosphere in the upper town is never excessively hot in summer nor excessively cold in winter, nor is the force of the winds violent, except in the lower town for a few days in the months of December, January, February, and March, during short intervals, when the temperature becomes lower, but very seldom, if ever, descends below 0 C. in some parts of the forest, and from 2° to 5° in the plage. The winter of 1866-7, however, was an exceptional one, a winter which, according to old residents, was much colder than those of previous years, and yet it was not so intense as in other stations further south. We had only three days of slight frost in the month of January, and as many of snow, after which the weather went on fine, with a few wet days. With the exception of those few frosty days the temperature was equable and mild, the range varying only from 6° to 8° daily, the maximum being of longer duration than the minimum during the whole winter season (from December, 1866, to March, 1867).

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* Dr. Corrigan (loc. cit., page 12).

Climatologists have hitherto paid their attention to the mean temperature of a locality, in order to ascertain the thermal character of its climate, and neglected other points connected with it, which are of a great importance, namely, the period of duration of the maximum and minimum temperatures, without which the mean can never be a true guide to that effect. In Arcachon the range is generally small, and the succeeding periods of each temperature short, which does not generally happen in exciting climates where sudden changes and long duration of minimum are the rule.

But the temperature of a climate is not to be measured by physical instruments exclusively, as I have observed in the previous article on Bordeaux, but by the physiological impression produced on the most delicate and sensitive organism. "Meteorological instruments, like thoughts, are free. What you feel—and you feel it the more painfully the longer you reside in any of the fashionable health-resorts of Europe—is, that the mere registered temperature of a place conveys no definite—at any rate, no adequate—idea of the amount of comfort or discômfort you will experience there. A hundred other things, which ought to be taken into the account, are frequently left out of it. No statement may be advanced which is positively untrue, and yet the general impression left upon the mind may be utterly untruthful."—*The Season at Nice,* March, 1869.

When the wind blows hard in the basin it is very little felt in the forest, and *vice versâ,* because the exposed position of the former and the sheltered of the latter by the sand hills. This circumstance produces different degrees of temperature in each place respectively.

In looking over the meteorological tables of the previous winters drawn up by different writers on the climate of Arcachon, and in comparing them with my own observations made in my residence, Villa Robinson, Avenue de l'Empereur, thirty-three mètres above the level of the sea, with instruments exposed to the north-east, and placed five mètres from the ground, I found some difference in most all atmospheric vicissitudes. This cannot be otherwise, for several reasons:

1st. Because the scales of the instruments used by different observers might not have agreed with each other.

2nd. Because some of the vicissitudes are not the same in all localities where they occur; and

3rd. Because the winters have not been all alike in their seasonable occurrences. On the other hand, some localities are warmer and drier than others, according to their elevation from the level of the sea, and other particular circumstances; and it is on this account that numerical records of different individuals must infallibly vary.

Moreover, localities are often omitted, for the forest referred to by all writers on the climate of Arcachon is not all alike. There are some sites in it much warmer and drier than others. If these circumstances are not mentioned the observations lose a great deal of their real value.

Rain was not so frequent as one would suppose it to be, when compared with other places in the same parallel of latitude further south. The quantity of water that fell during the three winter months was 300 millimètres in sixty-two days; and the degree of humidity 92°, while that of ozone varied from 8° minimum to 2° maximum. But in the lower town very seldom exceeded 4°, the minimum was 0 for the greater part of the winter. I must here observe that the effects produced on some invalids by this agent were so intense that Berigny's scale must have been deficient in measuring the exact degree. The quantity of water soon disappears from the top of the sand hills, being immediately absorbed by the luxuriant vegetation of pines and other evergreens to support their refractory life. So that the degree of humidity is not in proportion to the quantity of rain, for there are other sources from which this agent can be generated, viz., from fogs, dews, and heavy clouds from the west and south-west.

Fogs, snow, and frost are very seldom seen or felt, according to the majority of observers, who assert that when they appear it is only for a short time, and they remain but a few hours on the ground, after which the atmosphere becomes clear, bright, and warm. The winter before last, however, was an exception. The fogs were more frequent, and lasted as long as three successive days at the time. Otherwise, the sun is very seldom absent for a whole day, and the sky is but for a few hours overcharged with heavy clouds. These peculiarities explain the reason why those three enemies to valetudinarians are soon out of feeling and out of sight.

Thunder and lightning are very seldom heard or seen. Their occurrence takes place in autumn and spring more than at any other season of the year.

The atmospheric pressure is also higher in the forest than in the plage. I have observed it to be 767 mm. maximum in the former, 735 the minimum, and never above 755 in the latter place; the maximum being the predominant in the forest and the minimum in the plage.

The means of ascertaining the climateric influences on the inhabitants, and the diseases to which they are liable, do not exist in Arcachon, or, at least, they are in embryo as yet. Unlike a large town, where investigations of the kind can easily be instituted, Arcachon is quite a new place, recently inhabited by strangers, from different parts of the departments of la Gironde, les Landes, and Basses Pyrénées; and there is not a sufficient indigenous population for those purposes. Besides the immigrants, only few remain in winter, and being less influenced by the climate than new comers from further north, on account of the similarity of the climate with the one of their birthplace, they are, of course, very seldom ill. The only affection known to be prevalent among them and the few natives who inhabit the border of the basin, east of the Grand Hotel, as far as la Pointe de l'Aguillon, is a mild form of intermittent fever of a tertiary type.

On the other hand, there are no hospitals where statistics could be obtained. The resident physicians assert that, except those which are imported from other places, there are no chronic affections of any kind resulting from the climate of Arcachon; that a case of consumption may be seen now and then among the résiniers, which Dr. Hameau considers to be caused by the influence of the forest. "L'excès de sédation nerveuse a fait naître la tuberculisation."—*De l'Influence*, &c., p. 11.

Dr. Hamean ignores that it is by virtue of the law of similars that individuals of the first temperamental group suffering from that disease (tubercles) are cured or relieved in the forest, as the climate of that locality has the faculty of producing them in the natives; similarly to a paludal district where cures of certain forms of phthisis in persons belonging to the second group of temperaments are effected (particularly if the lymphatic predominates), because the air of that atmosphere tends to elicit symptoms analogous to such a disease.

Sedation being the characteristic of the forestral climate, it follows that the existence of such an allayer of action (ozone in excess, or when too long exposed to its action) in that atmosphere diminishes the action of the heart by repressing the nervous influence, and ultimately gives rise to the formation of tubercles in the lungs, similarly to the climate of some parts of the borders of the basin (malaria), which, as before stated, tends to excite a pathological process similar to pulmonary phthisis.*

It is an established fact that the similarity of marsh miasmata to some forms of pulmonary consumption is seen in the resemblance borne by the intermittent fevers produced on the healthy body by the former, to the periodical febrile attacks occurring in the latter. The relationship between marsh fever and phthisis pulmonalis is further seen in the fact that the remedies which cure the one are also serviceable in the other. But we must not confound this affection with tuberculosis. The former may exist without material disorganisation of the lungs, when the whole system undergoes a gradual annihilation and exhaustion; whereas in the latter there is a process of destruction soon after the softening of the knobs takes place, by which cavernous formations ensue. Hence the very true and original English name of CONSUMPTION, from the Latin word *consumo, consummi febri,* given to both forms of diseases, although they differ from each other in some respects. Nor ought we to overlook the difference existing between consumption from hereditary transmission and from acquired consumption. The former being a poisonous dissolution of the blood, like secondary and tertiary syphilitic process, and the latter, like primitive chancre, has an exclusive local character in the lungs.

In the summer months the place is crowded with visitors, principally from Paris and Bordeaux, the greater part of whom are not invalids in the full meaning of the word, but well-to-do people travelling for recreation and sea-bathing, who are also very little influenced (those from the latter place especially) by the climate, and do not remain long enough in the place. But the therapeutic action of the climate on those from the north who suffer from lymphatic or scrofulous diseases is, in that season of the year, very beneficial indeed, especially children and delicate females belonging to the second temperamental group.

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* Among the signs which indicate the existence of ozone in excess or in defect, there is one which I have recommended to invalids. That is, Berigny's ozone test, which may be had of Messrs. Negretti and Zambra, Hatton Garden, London. By this means they were enabled to manage their out-door exercise, either in the forest or in the plage. The test should be hung to the branch of a tree in the open air, and allowed to remain for two or three hours, when the colour of the paper will be changed according to the quantity of ozone in the atmosphere, and by comparing it with the scale, which is sold with the tests, the degree of that agent will be ascertained.

The physicians referred to in M. Dubarreau's *Guide*, who assert that no place in Europe offers so many and so favorable conditions for the cure of chest diseases, and for the restoration of weak lymphatic temperaments as Arcachon, are several in number and of high standing in Dublin, Paris, and Bordeaux, where they reside. They have had more or less experience on the subject, and their opinions are worthy of credit. They would have been wrong had they included the climate of the forest, which is diametrically opposed to that of the plage. But in adapting the latter exclusively as they do to lymphatic temperaments, they are quite right. The climate of the forest must have been unknown to them when they wrote the eulogy of the plage under the generic term of Arcachon; and it is since the Ville d'hiver became inhabited by English families that Dr. Hameau discovered the air of that locality to be contrary to invalids to whom the plage was favorable, and, *vice versâ*, propitious to those to whom the plage was adverse, and expresses his opinion thus:

" L'habitation au sein de l'atmosphère résineuse d'Arcachon convient dans les phthisies de forme héctique avec predominance du tempérament nerveux primordial ou acquis; et elle est contraire lorsque prédomine le tempérament lymphatique à forme torpide."—*De l'Influence* &c., p. 5.

Dr. Hameau draws his conclusions on the sanitary properties of the climate of Arcachon generally, which he asserts to be " sans similitude avec la pluspart des autres," from the clinical results of his long residence in the place rather than from the physical characteristics of the atmospheric agents. This mode of proceeding is general in the old school practice, but to discover the therapeutic properties of a remedy by observing the effects it produces on the sick and not on the healthy body is a professional absurdity. To experiment on the healthy is the most reasonable, the most logical, and the most physiological mode of proving medicinal agents, as Dr. Chambers did with the climate of Italy. He has proved it physiologically just as his professional brethren perform cures homœopathically without being aware of it, or as his reviewers say, "he does not explicitly lay down any such law in his work (physiological law), but he carried it out in his investigations, and his results clearly prove the correctness of his plan."

Nevertheless, Dr. Hameau has the merit of having analysed some of the climateric conditions of Arcachon and described the action of others, which render the organism very susceptible, and easy to be impressed by them. He acknowledges ozone to exist in the forest in the highest degree of Bérigny's scale, but he contests, or rather considers hypothetical, the existence of electric fluid in the atmosphere, which according to my opinion gives life to the universe itself, and to all the organic and inorganic beings it contains. I consider the existence of electricity like that of oxygen, in a moderate degree, to be the efficient cause of health, and its excess or defect the cause of many diseases and death.

Fearing to mistranslate Dr. Hameau's ideas on the subject, I shall give them in his own words.

"Il faut le dire, l'état electrique de l'air dans les diverses stations destinées aux malades préocupe toujours les médicins, et jusqu'à présent on n'a pas fait de recherches sérieuses qui permettent de lui assigner un rôle dans les actions physiologiques de l'atmosphére. Sans doute, les grandes masses d'eau salée, la geologie, la hauteur et la disposition des montagnes, la végétation, fournissent des éléments d'hypothèses; mais ce sont des hypothèses, et malgré mon grand désir de voir élucider ce problème qui intéresse au plus haut point notre forêt résineuse, je ne vois partout que suppositions gratuites. L'électricité est encore le *quid divinum* de la météorologie médicale. L'ozonometrie même n'a pas donné de grands résultants, mais du moins elle est experimentalement à l'étude."—*Notes*, &c., p. 21.

I have elsewhere stated that the selection of a proper site for residence, either on the plage or in the forest, according to the individual temperament, is of great importance. It is indeed one half of the cure in suitable cases.

As to the plage, which is adapted to phthisical invalids of the 2nd temperamental group, I found the neighbourhood of Le Mougne, Isly, and Eyrac, east of the lower town, to be the best. Also la pointe de l'Aguillon, as far as la Teste, where the atmosphere in winter is in a negative state. And with respect to the forest (the proper abode for poitrinaires of the 1st temperamental group) the most salubrious part is to be found east and south of the casino, the north and west being more damp and cold and the houses lower. The humidity remains there longer because the air and sun have but little access to them on account of the thickly grown and high pine trees which surround them; whereas on the east and south side of the casino the soil rises from twenty to fifty mètres above the sea, and there is a free circulation of the air and sun. There are but few villas built as yet in that direction; and if any one were to build I would recommend them to do so south of the Avenue de l'Empereur on both sides of the road which surrounds the plot of ground where the Villa Robinson (my residence whilst there) and the Villa Montaigne stand. Also on the south and west slopes of the dune where the water reservoirs are built. But in building no one should follow the example of the present dwellings, constructed only for summer, and with a few exceptions absolutely unfit to be inhabited in winter by English invalids. To be comfortable and to suit the house for both seasons, it should be built with a set of rooms to the north and another to the south, with large entrance halls, spacious passages and high ceilings, a hot-air furnace or calorifère, to keep all the rooms and avenues in a uniform temperature.

It is not without foundation that Dr. Hameau recommends "murs épais ou double murailles, galeries vitrées, enveloppant des étages entiérs, et double fenêtres partout ailleurs," as before stated, although not absolutely necessary; for the cold is never so long lasting nor so intense as to require all those precautions. But "calorifères et tapis épais jusque dans le moindre réduit; prises d'air exterieurs alimentant les foyérs," are absolutely necessary, especially the former, for without them one will feel from 2° to 4° colder indoors than in the open air.

I maintain that the westerly and northerly part of the Ville d'hiver is damper and colder than the east and south, in spite of its misunderstood sheltered position. I have repeatedly compared the temperature of both places at the same hours of day and night, and invariably found the former to be from 2° to 5° higher than the latter, and the same was the case with respect to humidity.

It is a popular error to suppose that the bottom of a valley or ravine, several feet below the surface of the road, is always warmer than the top, on account of its sheltered position; it is not so in winter, although it is the case in summer. Besides the thermometrical proofs to this assertion, I have witnessed a phenomenon which confirms it completely, viz., there was a gale from the south-west on the 1st day of January, 1867, accompanied with thunder and lightning and a large quantity of hail, from nine a.m. till night. The hail on the top of the hills, near to my house, east of the casino, directly exposed to the wind and about from thirty to forty mètres above the basin, melted immediately after it fell; whereas on the west and north, the mistaken sheltered and ill-chosen sites of that locality, from fifteen to eighteen mètres above the sea level, the hail remained hard all night and part of the next day. The same was observed in some hollow places amongst the dunes in that neighbourhood, from three to five mètres below the level of the road.

With respect to the neutral zone, any part of it will suit all temperaments.

I will sum up my observations on the medical station of Arcachon as a winter resort for invalids suffering from diseases of the throat and chest, by stating that one of the principal advantages it possesses over any other locality on the continent that I am acquainted with, is the existence of three different climates close to each other, offering the facility of removing a patient in a few minutes' time, who by a mistaken advice or ignorance may happen to have chosen the wrong place; and that invalids of all temperaments may go there, sure to find the climate suitable to their own.

Those climates are as follows:

1st. The exciting, on the meridional borders of the basin in the maritime zone. (Exciting in a moderate degree, not to the extreme of the climate of Nice, or any other place in the Mediterranean coast.)

2nd. The sedative, in the forestral zone. (Sedative to a very high degree, at times, and by long-continued residence under its influence. But, by watching the degree of ozone in the atmosphere with Berigny's test, already recommended, invalids will be able to regulate their exposure outdoors.)

3rd. The neutral, between the two above named, in the neutral zone; the two former ones being essentially adapted to especial temperaments.

I have, in conclusion, to acknowledge the kind attentions and useful information received from the agents of the société immobiliére, Messrs. Deganne and Lemoucheaux; M. Fragneaux, the director of the Gas and Water Works; and of M. Gaussin, the agent of M. Pereire's domain.

(*To be continued.*)

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# ON HAHNEMANN'S DOCTRINE OF SYPHILIS.

The reputation of great men should be the care of posterity. We have not so much greatness in the world that we can afford to lose any of it. It should give much greater pleasure to be able to verify the hypotheses of the pioneers of science, than to find ourselves in a position to disprove them. More especially should this be so with the intellectual descendants of any thinker. His fame is part of our inheritance, and we should guard it with jealousy. It is part of the return we are bound to make to him for the rich legacy of thought he has bequeathed to us.

It is in such a position, we apprehend, that we homœopaths stand towards Samuel Hahnemann. This Journal has never fallen in with the tendencies of some in our ranks to separate themselves from the founder of our school, and even to cast scorn upon his name. Not that we have any sympathy with the so-called "Hahnemannians," who delight *jurare in verba magistri*, to whom the *Organon* is a Bible, and the *Chronic Diseases* a final revelation. But, without pinning our faith to anything that Hahnemann has said, it is unquestionable that we owe to him all that constitutes the happy *differentia* of our position. What we should have been without him appears from what we see around us. Modern medicine has made great and manifold advances; but not in the direction of specific medication. Only those who have listened to Hahnemann have fully acquired this truth; and all whom it has visited by fitful gleams in other ranks, and who have faithfully followed its light, have found themselves Homœopaths at last. We have learnt much since Hahnemann's death; but does that entitle us to look down upon him? Might he not have advanced *pari passu* had he remained among us? Let us honour his name.

One of Hahnemann's most cherished doctrines was that which he held concerning Syphilis. It is in almost every respect opposed to the teaching both of his own time and of the present. But one portion of it, thus characterised, has been so emphatically re-affirmed in a recent treatise, that it begins to seem probable that Hahnemann might after all have been right, and the others wrong. It is to this portion of his doctrine that we desire especially to call attention. But we shall take this opportunity of expounding it as a whole, and pointing out its relations to modern theory and practice.

1. Hahnemann teaches that the chancre is not the starting point of the whole phenomena of syphilis, but is an evidence that the organism is already infected by the poison. These are his words (*Chronic Diseases*, vol. i.):

"The allœopathic physician, not knowing that the entire organism has become infected with the syphilitic miasm, even before the appearance of the chancre and immediately after the impure coition has been accomplished, looks upon the chancre as a simply local ulcer which ought to be removed by the external application of desiccating and cauterizing substances, and which will remain quite harmless provided it is not left too long on the skin; for, in this latter case, the absorbing vessels might carry the poison into the internal organism, and in this way produce a general syphilitic affection, whereas these evil consequences might be avoided by a speedy removal of the chancre. This is both the doctrine and the practice." Then, after citing John Hunter and Fabre to show that local removal of the chancre never prevents constitutional infection, he continues: "It is incredible that physicians, in spite of the experience and emphatic statements of such great observers, should have shut their eyes to the fact, that the venereal disease existed already in its fulness in the organism before the chancre had made its appearance, and that it was an unpardonable mistake to remove this chancre by external applications, and to consider this local removal of the chancre a complete cure of the disease."

And again: "As soon as the syphilitic miasm has taken effect, it ceases to be circumscribed by the spot where the infection first took place. The whole living body has perceived the presence of the poison; the miasm has, so to say, become the property of the whole organism. Washing and wiping the parts with what liquid it may be is fruitless; even exsecting the part is of no avail. During the first days the infected spot does not show any morbid symptoms; but the internal organism, from the first moment of the infection, is being adapted to the action of the recently introduced miasm. When the syphilitic disease has been completely developed in the system by means of this progressive adaptation, then it is that nature produces the chancre upon the primitively infected spot with a view, as it were, of hushing the internal affection."

Putting out of sight, for the present, the hypothesis involved in the last clause, the doctrine maintained by Hahnemann in the face of the pathology of his day was as stated above. We will now call attention to a work recently translated for the New Sydenham Society. It is *A Treatise on Syphilis, Historical and Practical;* by Dr. E. Lancereaux, Head of the Clinical Department of the Faculty of Medicine in Paris. The first chapter treats of the "Period of Incubation—Its Existence—Its Duration." From it we cite the following:

"By incubation we understand the interval of time which elapses between the moment of the absorption of the syphilitic poison, and that of the appearance of the first local manifestation.

"Admitted by a small number of physicians, though generally denied, the doctrine of the incubation of syphilis was first developed and maintained by Alph. Cazenave.* 'Syphilis,' says that author, 'is a general disease from its commencement, which dates from the very moment at which the infecting contact occurs, as in all diseases which are virulent, and consequently general. . . . . The primary symptom is not the first mode of action of syphilis, but really only the first phenomenal expression of the infection, and when it manifests itself the disease has already commenced.' Chausit and Vidal were amongst the first supporters of this doctrine, now generally adopted by the most eminent syphilographers,† and in support of which two modes of proof may be adduced—the one experimental, the other clinical.

"Long denied by a celebrated school, the incubation of syphilis was not really made obvious until very recently; thanks, above all, as we are bound to admit, to inoculations practised upon persons free from that disease. Employed partly for the purpose of proving the contagiosity of secondary affections, the artificial inoculation of syphilis in healthy subjects has taught us, better than could have been done by clinical observation, that the reaction of the organism, into which the poison has entered, does not manifest itself immediately by external phenomena, but only after a longer or shorter period, as occurs in all virulent diseases. From the experiments performed it results, in fact, that the wound in which the products employed for the inoculation were deposited soon becomes cicatrised, almost as would a simple wound; the cure, however, is far from being permanent. Soon, at the same spot, there appears a single, isolated lesion, the first manifestation of the disturbance of the economy affected in all its parts. The time which this special manifestation requires to show itself has been determined, and thus it has become possible to fix the period of the incubation of syphilis." (A table is then given, in which the time of incubation appears to range from eighteen to thirty-five days. Dr. Lancereaux' clinical observations confirm this result; M. Diday's give a mean period of fourteen days. Then he continues): "But whatever may otherwise be the interest attached to a knowledge of the incubation period of syphilis, one fact is established—it is the existence of this incubation itself. It is no longer possible to believe, with Hunter and Ricord, that chancre is a local lesion which only infects the general economy afterwards. We must see in this lesion the external and primary expression of a general condition already attained, whence the practical lesson that cauterization of a syphilitic ulcer, employed as a preventive means, is entirely useless.

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* *Traité des Syphilides*, p. 142 et suiv. Paris, 1843. (The first volume of the *Chronic Diseases* was published in 1828.)

† See Clerc, Rollet, Follin, Cusco, Diday, H. Lee, Bärensprung, Lindwurm, &c.

"Like the local manifestations, the general derangements of the organism are usually wanting in this first stage of syphilis; and yet there is reason to ask whether the organism does not suffer already. The patient, whose case is related by Chausit, presented, during the course of that period, emaciation, pallor, lassitude, a state of chloroanæmia; the appearances, in a word, of a severe disease, and all without any appreciable cause. All the difficulties of a diagnosis under such circumstances are easy to conceive. Even if we saw the foregoing symptoms follow sexual intercourse with a suspicious person, it would scarcely be possible to predicate the outbreak of syphilitic disease."

If the above conclusions be admitted, it is interesting to glance for a moment at the side light they cast upon the theory of vaccination. In a paper on this subject ("The Present Doctrine concerning Vaccination") in the No. of this Journal for April, 1868, we found that the Ricordian doctrine of syphilis was dominant here also. It is generally taught that the effect of the vaccine inoculation is at first, though specific, purely local; and that its extension to the constitution at large is effected by means of the areola, which does not begin to form until the eighth day, and whose development is attended by the general disturbance which, however slight, constitutes the true eruptive fever. We adduced certain difficulties in the way of this doctrine; and, though leaving it *sub judice*, ourselves leant to the opposite hypothesis of primary constitutional infection. We also wrote as follows:

"In addition to the observations now discussed, the advocates of the modern doctrine would probably point to the phenomena of hydrophobia and syphilis as parallel cases in proof of their theory. In both we have a lingering, and probably a development of the poison at the seat of its implantation; then local symptoms—the recrudescence of hydrophobia and the chancre of syphilis; then constitutional infection. As far as hydrophobia is concerned, the force of the parallel must be admitted. But when syphilis is adduced as a case in point, it is only thrusting the difficulty further back. Is it yet proved that Hahnemann was wrong in supposing that the breaking out of the chancre was an evidence that the syphilitic poison had already infected the system?"

It will be seen that the analogy now makes all the other way.

2. The second point in Hahnemann's doctrine of Syphilis is indicated in the concluding words of our last extract from his *Chronic Diseases*. "Then it is that nature produces the chancre upon the primitively infected spot, *with a view, as it were, of hushing the internal affection.*" He states this view repeatedly. "This ulcer (chancre) may remain upon the same spot during the lifetime of the patient, and, although it may become enlarged, yet the secondary symptoms of syphilis will never make their

appearance as long as the chancre remains." Speaking of the removal of the chancre by local treatment, he says, "By this practice the physician deprives the internal disease of its vicarious symptom, the chancre; and, by the removal of the chancre, he forces the disease to embody itself externally in the more troublesome and speedily suppurating bubo. And after this too has been removed, as is foolishly done, by external treatment, the disease is forced to manifest itself throughout the organism with all the secondary symptoms of a fully developed syphilis." Again—"By this local removal of the chancre, the syphilitic disease was not only forced to ramify into its secondary symptoms, but the physician deprived himself of a sure and infallible indication of the thorough and permanent cure of the internal disease. As long as the chancre existed, the organism was yet tainted with the syphilitic virus; whereas the disappearance of the chancre consequent upon the internal administration of appropriate remedies was a sure sign of the internal disease having been completely and permanently cured. In my practice of fifty years' duration, I have never seen syphilis breaking out in the system, whenever the chancre was cured by internal remedies, without having been mismanaged by external treatment."

How do facts, as observed by others, bear out this theory? One homœopathic syphilographer certainly confirms them, Dr. Schneider, of Magdeburg, whose views are published in vol. xxii of this Journal, professes to have met with results similar to Hahnemann's. He treats his cases with globules saturated with the 4th and 6th dec. dilution of *Mercurius solubilis,* and sometimes with *Nitric acid* and *Sulphur.* From six to eight weeks are required for the disappearance of the chancre; *but no sequelæ occur.* This he states on the evidence of 325 cases which came under his treatment, in four of whom only did secondary symptoms appear; and of these only one had been under his care from the first. It may of course be said that Dr. Schneider's cases, and Hahnemann's also, were of soft chancre only, which is a local sore, and not followed by constitutional infection. I must admit that the suspicion has some little foundation as regards Hahnemann. His "speedily suppurating bubo" does not suit the indolent indurations of true chancre. "The chancre appears in the form of a little vesicle, which is soon changed to a painfully stinging ulcer, with an elevated border." This is unquestionably the soft, non-infecting chancre. But the next sentence is puzzling:—"The chancre generally appears between the seventh and fourteenth day after the infection has taken place; rarely sooner or later." This is too late for the soft chancre, and too early for the hard; and so after all we are left in doubt. It is hardly likely, moreover, that in a practice of fifty years none but soft chancre should have come under his care. The same probability extends to Dr. Schneider's cases, which comprise all that he has treated for thirteen years.

On the other hand, there is no doubt but that the bulk of experience, among homœopathic and allopathic observers alike, is that of Dr. Yeldham, who states that the appearance, or non-appearance, of secondary symptoms is a matter beyond the control, in most cases, of the very best treatment that can be adopted. Lancereaux' first case is one in point:—

"A young law-student, a friend of mine, left Paris on the 15th of July, 1859, for the purpose of passing his holidays in the country. On the 15th of August he showed me a conical ulcer, with hard, raised edges and a greyish base, situated upon the left front of the scrotum, and accompanied by swelling of a single gland. This ulcer, the diagnosis of which could not be doubtful for a moment, had shown itself only a few days previously, although my young friend, who had no interest in deceiving me, positively assured me that he had not had any sexual intercourse for several days before leaving Paris. *I gave him Proto-iodide of Mercury, and the chancre soon disappeared. At a later period he had secondary symptoms.*"

It may be said that material doses of *Mercury* are not the "appropriate remedies" whose internal administration is stated by Hahnemann to remove a chancre without the appearance of secondary symptoms. This is Dr. Schneider's position. Large doses of *Mercury*, according to him, only suspend syphilitic action, and render it latent; while the small doses he gives favour its elimination by deposition in the tissues. But however this may be, Hahnemann's statement that "the secondary symptoms of syphilis will never make their appearance as long as the chancre remains" cannot be sustained. Cases xiv and xv of the syphilitic series in Dr. Yeldham's *Homœopathy in Venereal Diseases* presented secondary eruptions simultaneously with indurated chancre; and such concurrence is not uncommon.

3. We have last to present Hahnemann's views as to the treatment of syphilis; and though the doubt as to the nature of the chancres he observed somewhat weakens his statements, yet they are too life-like to be ignored as valueless.

"In that stage of the syphilitic disease where the chancre or the bubo* are yet existing, one single minute dose of the best mercurial preparation is sufficient to effect a permanent cure of the internal disease, together with the chancre, in the space of a fortnight. Of course such a cure can only be effected when the syphilitic disease is not complicated by some psoric affection; it is especially in young persons of a cheerful temper that a speedy cure may be anticipated; psora being in a latent condition in such persons, neither syphilis nor sycosis can become adulterated by that miasm." If any difficulty is caused by this mention of "psora," substitute "scrofula," and the proviso becomes generally accepted. "A few days after the medicine has been taken, and without the use of any external application, the chancre is changed to a pure ulcer with a little quantity of laudable pus, which heals of itself without leaving the slightest cicatrix, or even a spot the colour of which is different from that of the sound skin. This is a convincing proof that the internal disease has been completely annihilated." He then goes on to describe the "best mercurial preparation," which appears to be the *Mercurius vivus*, and not his own salt (*Merc. sol. Hahnemanni*). Of this "formerly," he says, "I was in the habit of using successfully one, two, or three globules of the billion degree"—*i.e.* 6th centesimal—"for the cure of syphilis. The higher degrees, however, even the decillion degree"—*i.e.* 30th—"act more thoroughly, more speedily, and more mildly. If more than one dose should be required, which is seldom the case, the lower degrees may then be employed."

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* Hahnemann states that, "in rare cases, the bubo is the first and immediate result of an impure coition without any previous chancre." The thing is not improbable, but we know of no confirmatory observations in point.

When the chancre has been removed by external means, but the constitution is not psoric, nor injured by mercurials, the same treatment is still curative of the internal disease. The original spot on which the chancre had been developed will in such cases exhibit a morbid-looking red or bluish scar. "If the homœopathic physician has discovered that bluish spot, and by this discovery has become convinced that the internal disease is not yet cured, the patient, provided he is perfectly free from all symptoms of psora, may be perfectly cured by one single dose of the above described mercurial preparation; and, as a proof that the cure is perfect, the bluish scar will completely disappear, and the skin at that spot assume the same healthy appearance as the rest of the body."

Into the treatment recommended by Hahnemann for fully developed constitutional syphilis, which he considers to be always complicated with "psora," we do not enter, referring the curious reader to the *Chronic Diseases* for further information. But, as regards the treatment of chancre, has Hahnemann's practice been verified or disproved by experiment? and if not, do we not owe it to him to put it to the test?

# NOTES ON SOME FORMS OF PARALYSIS OCCURRING IN INFANCY, CHILDHOOD, AND YOUTH, AND ON THE PRINCIPLES OF TREATMENT FOR THE PREVENTION AND CURE OF PARALYTIC DEFORMITIES.

By Dr. Roth.

Every variety of paralysis which occurs in adults can also occur at an earlier age; to speak of an infantile or juvenile paralysis as distinct from paralysis in adults is only a conventional term.

## *Conditions under which paralysis arises.*

1. The conditions under which the various forms of paralysis arise are very numerous, and the most common and general causes are those which destroy that normal state which is essential either to the conditions of sensitive impressions to the brain, and to their perception by the mind, or to the conveyance of the will, or rather of the stimulus of the will through the nerves of motion. Pressure on the brain by a large effusion of blood or serum, by fracture and depression of the bones, by tumours, or by excessive fulness of the cerebral vessels, disorganisation of structure, in fact whatever prevents the free circulation of the blood through every part of the brain or spinal cord, may produce paralysis which will be either general or local, according to the extent of separate portions or tracts of the brain and spinal cord which are affected.

From this source also originates the difference of the principal varieties of paralysis. If a central part from which a sensitive nerve arises be seriously diseased or destroyed, there will be loss of sensation (anæsthesia, paralysis of sensation) in the part supplied by the sensitive nerve in question, but its natural power of motion will remain unaltered;

if a centre of origin for motor-nerve be diseased or destroyed, the part supplied therefrom will lose its motion, but retain its sensibility; if an amount of nervous matter, which is a centre both for sensitive and motor nerves, be diseased, loss of sensation and motion (or complete paralysis), loosening, or relaxing, will take place.

### *Additional causes of paralysis.*

2. A morbid change in the blood, such as may be induced by typhoid fever, scarlatina, measles, diphtheria, or anæmia. Congestion and inflammation of the nervous centres, and of their surrounding membranes, organic changes in the structure of the brain, spinal cord, and the spine itself, convulsions, epilepsy, chorea, metallic and vegetable poisons, functional derangements of various organs which act by reflex action. Brown-Séquard asserts that cerebral paralysis may be reflex by an irritation from a remote morbid part of the brain being transmitted to another part whose function is to control muscular movement. Onanism and masturbation, as well as too premature and too frequent abuse of the sexual functions, exhaustion, mental and bodily overwork, mechanical and traumatic influences, are amongst the most frequent causes of the various species of paralysis.

### *Paralysis frequently a symptom of other complaints.*

3. Paralysis cannot be said to be always an idiopathic disease, and should, therefore, be considered rather as a symptom of some disorder of the nervous system (often seated at a distance from the part where sensation, motion, and nutrition have been lost), or of a disease of any other organ acting by reflex action on the nerves. Congenital paralysis is often caused by deficiency or atrophy of central organs, and arrested intra-uterine development; the various hysterical, rheumatic, arthritic forms of paralysis, and those caused by congestion and inflammation in the brain and spine, and its membranes, are merely symptomatic.

### *Division of paralysis with regard to the diseased nervous organ.*

4. For practical purposes relative to the seat of the diseased organ causing the paralysis, we speak of a central (cerebral or spinal) and peripheric paralysis; and with regard to the various functions which are affected, there is paralysis of sensation, motion, and nutrition (this last usually but erroneously called atrophy, because this term expresses only that the nutrition is diminished, but not that the nervous influence providing for the function of nutrition has ceased). Loss of motion and nutrition are often co-existent, or the latter is an effect of the former. Loss of motion and sensation are less frequently combined with loss of nutrition.

### *The (atrophic localising) infantile paralysis.*

5. This disease is frequently called the essential paralysis of infancy, THE infantile paralysis (Laborde); spinal paralysis of children, spinale Kinderlähmung (Heine); fatty atrophic paralysis of infancy, paralysis atrophique graisseuse de l'enfance (Duchenne); paralysis myogenique (Bouchut); torpeur douloureux des jeunes enfants (Chassaignac); atrophic paralysis of children, with fatty degeneration, &c. These are some of the names given to a particular form of infantile paralysis, which has been and is still frequently confounded with a similar disease, caused either by metastasis during the critical stages of the febrile exanthemata of childhood, or by several of the pathogenetic influences mentioned in paragraph No. 2.

### *Reasons for suggesting the names atrophic and localising.*

6. I believe that the words *atrophic* and *localising* will by naming two constant characteristics of this form of infantile paralysis prevent the confusion at present caused by the general term of infantile paralysis, because infants suffer just like adults from various forms of paralysis. As

this form of infantile paralysis causes the majority of shrivelled, lame, cold, half-dead limbs, contractions of joints, and all kind of deformities, it might be useful to mention it first, and to give an extract of all what is known about it. The principal sources are Heine's and Laborde's monographies, and I have preferred to consult the original German and French works instead of repeating quotations given by other authors. My own and original contributions refer more to the treatment of this complaint, which is a disease *sui generis,* and not to be mistaken for other forms of paralysis occurring in infancy.

*The characteristics of the atrophic and localising paralysis in infancy* are—

7. (*a*) That in the majority of cases it occurs in babies and infants at the age of from four months to five and six years.

From six months to two years Duchenne saw 37 out of 56 cases; West 27 out of 43 cases; Hillier 8 out of 12 cases; Laborde 16 out of 26 cases.

(*b*) Without premonitory symptoms a violent or slight feverish state precedes the paralysis. This fever lasts sometimes only from twelve to twenty-four hours, rarely more than ten days, and varies in intensity. In more severe cases the little patients are very restless, and the pulse rises to 140, 150; *there is no vomiting,* a symptom very frequently occurring in other fevers of children, and especially in cerebral affections; a kind of somnolence induces the medical man to believe that a comatose affection proceeding from the brain will be developed, but the short duration of the fever, the complete absence of cerebral symptoms, and the general paralysis of the limbs which at one stroke attacks all the limbs as well as the trunk and neck, shows the difference between this and cerebral paralysis, or other affections of the brain. Laborde has in 50 cases observed the fever 40 times; West in 32 cases 5 times. Often the fever is so slight and short that it is scarcely or not at all observed, and the mother or nurse find an infant paralysed in the morning, although, to all appearance, it was well when put to bed.

(*c*) Convulsions and painful contractions of the hand or knee have also been mentioned by Vogt and Brüniche amongst the symptoms preceding the infantile paralysis, but these contractions, which last for a longer or shorter time after some convulsions, are most intense at the beginning and gradually disappear. Although these contractions might exist with the infantile paralysis, they are not amongst the characteristic symptoms of this complaint.

(*d*) This form of infantile paralysis occurs also without any fever or convulsion having been previously observed. The infant which has begun to crawl, stand, or walk is in good health, not the slightest indisposition is noticed, and at once, without any known cause, the power of crawling, standing, or walking is lost. I have been lately consulted in two cases, both boys, one five, the other six years of age, of whom one when eleven months old could crawl; the other at the age of fourteen months could stand. The mother of the former observed one day that the child was dragging the left leg behind him instead of executing the movement of crawling. When the doctor examined the child the left leg in its whole length from the hip down was found paralysed. The other child was walking with his mother, and whilst with and near her fell suddenly, and from that moment the right fore-arm and hand and one leg were paralysed. I remember two cases where the paralysis occurred immediately after lancing the gums, and others during the period of dentition, or after intestinal irritation produced through indigested food or worms. Although these cases occurred after or without previous convulsions they were different from the atrophic and localising infantile paralysis which at its invasion is most sudden and intense both in extent and quality. The age of the little patient and the period of dentition has induced several authors to believe that the process of dentition is particularly predisposing to this affection.

(*e*) The loss of motion takes place in the trunk, neck, and four extremities, but not in the face; walking and standing are out of the question; in the worst cases even sitting is impossible, the spine, having lost its power, is unable to support the body, which falls to either side or forwards, according to the law of gravity, just as the head, equally powerless, drops in a similar manner.

(*f*) The following two cases will convey a good idea of the invasion of this paralysis. Laborde mentions the case of a strong and well-built girl, of three years of age, who walked when eighteen months old. On the 12th November, 1863, she was perfectly well, when depression of spirits, want of appetite, and violent fever, which lasted forty-eight hours, were noticed. On the fourth day (16th) the fever ceased, but the child could neither walk, stand, nor sit; all the limbs were found paralysed, and she was unable to prevent the head from sinking. Although pinching was slightly felt it did not cause any pain; tickling the feet did not produce any reflex movements in the legs; the urine passed at times involuntarily. It appears that croup had some time before preceded this attack of general paralysis; but the uvula being perfectly moveable, and the power of swallowing normal, the tone of the voice unaltered, the subsequent symptoms proved that it was not a diphtheric paralysis. The arms rapidly recovered their power of motion, but the legs remained paralysed. The left side is more affected, the muscles on this side are considerably atrophied, and even under the influence of electricity do not contract, and a tendency to talipes valgus is visible in the left foot.

The same author quotes another case, where, without any known cause, a healthy boy of two years, who had walked when eighteen months old, and never had any complaint, was seized with a violent fever which lasted twenty-four hours, and was followed by general paralysis of the trunk, neck, and all the limbs. A fortnight later the arms recovered their power, and two years after the spinal muscles had not entirely regained their action. The legs are still incompletely paralysed; the muscles and bones are to a great extent atrophied; and a tendency to varus equinus is seen in both feet; the legs during the unsteady walk are placed apart to preserve the equilibrium.

(*g*) *Forms of a. l. i. p.*—This infantile paralysis appears mostly under the form of paraplegia. In 30 cases observed by Laborde there were 21 of the above-mentioned form. Heine mentions that out of 192 cases of paralysis of children he had 158 of *this* infantile paralysis (which he called the spinal infantile paralysis). Of this number were—

| | |
|---|---|
| 37 | Paraplegia, |
| 34 | Paralysis of one leg (which he called hemiplegia), |
| 84 | Partial paralysis, |
| 2 | Paralysis of a single arm, |
| 1 | Lordotic paralysis. |

(*h*) *The localisation of this form of paralysis.*—The general paralysis which at the first stroke seizes the trunk, neck, and all the limbs, has a tendency to *localise itself.* The trunk and neck appear to recover first, then the upper extremities, and finally one leg, and even when localised in one limb there is a further tendency in the disease to settle itself in a group of muscles, affecting several joints or one only. The partial paralysis is sometimes only localised in the flexors or in the extensors, whilst adductors or abductors are not at all simultaneously affected. The localisation has taken place, according to observation, a fortnight, three weeks, one month, two to six months, and sometimes a year after the invasion of the disease. The paralysis of both upper extremities is seldom seen, but paralysis of one arm is more frequent. I have hitherto seen four cases of brachial paralysis in which the deltoideus was almost entirely wasted. As the atrophy is very considerable the skin appears to cover the shoulder-joint, and the form of the bones can be easily traced. Local atrophy of the deltoideus has also been observed after external injuries, a gangrenous ulcer after vaccination, continued suppuration after blisters. Setons and cauteries are also amongst the causes of a similar local atrophy, which will be easily distinguished from the paralytic atrophy by the previous history of the case and by the scars and unequal lines of the skin. Besides the deltoid, the flexors or extensors, the pronators and supinators of the arm, as well as the flexors of the metacarpus and the extensors of the fingers, are more or less paralysed and atrophied.

(*i*) *Origin of deformities.*—In course of time retraction of the muscles which have retained some power takes place and causes a deformity of the joint in the direction of their action—as all antagonistic action has ceased—thus club hands and fingers, claw fingers, in- and eversion of the wrist and fore-arms, and contractions of the elbow are formed. According to the severity of the loss of power and atrophy in various parts, combinations of several deformities are formed; the paralysed arm is in the beginning passively hanging down, its size diminishes in some cases slowly, and it is only when compared with the healthy arm that the arrest of development and the progress of atrophy is noticed.

(*k*) *Origin of deformities in the lower extremities.*—Both legs are frequently simultaneously attacked. In these cases the deformity in both varies; thus one foot is varus, the other valgus.

The groups of muscles most frequently paralysed in the legs are—

1. The flexors of the foot and extensors of the toes (extensor longus communis digitorum, extensor pollucis magnus, peroneus longus, and brevis lateralis).
2. The extensors of the foot (gastrocnemius, solæus), and flexors of the toes.
3. The extensors of the leg.
4. The flexors of the leg.
5. The adductors of the leg.

The single muscles most frequently paralysed are—

Extensor longus digitorum pedis.
Tibialis anticus.
Sterno-cleido mastoideus.
Deltoideus.

The mode by which the varieties of club-foot, deformities of the knee (genu incurvatum valgum, excurvatum varum, recurvatum and contractum), of the hip and spine are caused, is partly by the paralysed muscles and partly by the incomplete or complete use of the muscles which have either partially or entirely retained their power.*

(*l*) *Condition of sensation, reflex action, and electric contractility.*—The loss of sensation is rarely complete but in the beginning, and in the more intense degrees of the disease sensation is less distinct. Hyperæsthesia has been sometimes seen. Reflex action is rarely entirely lost, often diminished; sometimes normal, although the paralysis may be general and most intense. Soon after the commencement of the paralysis the reflex action is usually entirely lost in those forms where not only the majority of the muscles of the lower extremities have lost their power, but also where the legs fall in a bent position outwards, the adductors of the thigh being perfectly paralysed.

Electricity does not produce any or merely a very slight contraction in the paralysed muscles; but this condition is not sufficient to determine whether the original disease is *the* atrophic localising infantile paralysis or a cerebral paralysis, because there are cases in which some muscles contract when stimulated by electricity, whilst others do not do so; some patients showing all the characteristics of this infantile paralysis still retain the power of electric contraction. Marshall Hall was the first to note the difference between a cerebral and spinal paralysis, or the electro-muscular contractility which also (according to Duchenne) is always absent in spinal paralysis. Lately, this presence or absence of electro-muscular contractility has been considered an absolute criterion for the diagnosis, although it is absurd to say that a case was first a cerebral and later a spinal paralysis, because this contractility was first preserved and afterwards lost. In cases where brain and spine are simultaneously the cause of paralysis, and where the power of electro-muscular contractions exists in some parts and is deficient in others, it would be difficult to give positive opinion on the subject of the forms of the two paralyses as long as we are restricted to judge by only one symptom.

(*m*) *Atrophy of the paralysed parts.* — The paralysed parts are conspicuous by a particular flaccidity and softness of the muscles, by an atrophy of the muscular, ligamentous, and even osseous tissues, consequently by diminution of volume; the bones lose sometimes in length as well as in circumference. Heine observed the shoulder-blade and the knee-pan one third smaller in size on the paralysed side. I have also seen several cases where all the bones of the foot have been smaller, or where the length of the tibia and fibula was reduced by more than an inch, or the femur of the paralysed limb was shorter.

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* The description of the most frequent paralytic deformities will be found after the chapter on pathological anatomy.

The data regarding the time when the atrophy begins are not yet sufficient for fixing the exact period. Some authors believe that it begins simultaneously with the paralysis, others only a few months after, in consequence of the loss of muscular activity. I believe that during what is called the acute stage of this paralysis the development is arrested, and the younger the child is the disproportion in the length and volume of the affected parts is greater; later, the affected parts, especially the bones, commence growing again, but never attain the development of the healthy part.

(*n*) *The temperature of the paralysed parts.*—The temperature of the paralysed limb is considerably lower; in the other form of cerebral paralysis the difference is rarely so great.

Heine has given, for this form of infantile paralysis, the following table of the temperature of the paralysed limbs in Reaumur's scale, to which I have added the reduction according to Fahrenheit.

*Paralysis of one leg.*

| *No.* | *Age.* | *Thigh.* | | *Leg.* | | *Sole of foot.* | |
|---|---|---|---|---|---|---|---|
| | | R. | F. | R. | F. | R. | F. |
| 1 | 14 months | 24 | 86 | 20 | 77 | 19 | $74\frac{6}{8}$ |
| 2 | 26 ,, | 23 | $83\frac{6}{8}$ | 19 | $74\frac{6}{8}$ | $18\frac{1}{2}$ | $73\frac{5}{8}$ |
| 3 | 36 ,, | 20 | 77 | 17 | $70\frac{2}{8}$ | $16\frac{1}{2}$ | $69\frac{1}{8}$ |

*Paraplegia.*

| *No.* | *Age.* | *Thigh.* | | *Leg.* | | *Sole of foot.* | |
|---|---|---|---|---|---|---|---|
| | | R. | F. | R. | F. | R. | F. |
| 4 | 15 ,, | 23 | $83\frac{6}{8}$ | 22 | $81\frac{4}{8}$ | 21 | $79\frac{2}{8}$ |
| 5 | 27 ,, | 22 | $81\frac{4}{8}$ | 20 | 77 | 18 | $72\frac{4}{8}$ |
| 6 | 40 ,, | 21 | $79\frac{2}{8}$ | $17\frac{1}{2}$ | $71\frac{3}{8}$ | 17 | $70\frac{2}{8}$ |
| 7 | 52 ,, | 19 | $74\frac{6}{8}$ | $17\frac{1}{2}$ | $71\frac{3}{8}$ | 16 | 68 |

By comparing the temperature of the sole of the foot with that of the thigh, I find that the difference is greater in the paralysis of one leg where the maximum is 11$\frac{2}{8}$ F. (in No. 1), the minimum (in No. 3) 7$\frac{7}{8}$ degrees; while in *paraplegia* the maximum of difference is (in Nos. 5 and 6) 9 degrees, and the minimum in No. 4 is only 4$\frac{4}{8}$.

Another interesting fact strikes me that the *average* of temperature diminishes in proportion to the more advanced age of the patient; thus, at the relative ages of 14 months (No. 1) and 15 months (No. 2), the amount of the average temperature in the paralysed limb is 79$\frac{2}{8}$ and 81$\frac{4}{8}$, while the average temperature at 36 months (No. 3) is 72$\frac{1}{8}$, and at 52 months (No. 7) 71$\frac{3}{8}$.

Another table by the same author shows the comparative temperature of the (a. l. i.) spinal paralysis and cerebral paralysis.

*Comparative table of temperature in the atrophic localising paralysis and those forms of infantile paralysis which are consequences of cerebral causes.*

14·0 Reaumur, 63$\frac{4}{8}$ Fahrenheit, in the room.

*Atrophic localising infantile paralysis.*

| *No.* | *Age.* | *Form of paralysis.* | *Part measured.* | *Degree of temperature.* | |
|---|---|---|---|---|---|
| | | | | R. | F. |
| 1 | 4½ years | Paraplegia | Armpit | 27 | 92$\frac{6}{8}$ |
| | | | Lumbar part of the back | 26 | 90$\frac{4}{8}$ |
| | | | Thigh | 24 | 86 |
| | | | Leg | 20 | 77 |
| | | | Sole of foot | 18 | 72$\frac{4}{8}$ |
| 2 | 6 „ | Paraplegia | Armpit | 29 | 97$\frac{2}{8}$ |
| | | | Lumbar part | 26 | 90$\frac{4}{8}$ |
| | | | Thigh | 23 | 83$\frac{6}{8}$ |
| | | | Leg | 20 | 77 |
| | | | Sole of foot | 17 | 70$\frac{2}{8}$ |
| 3* | 6 „ | Paraplegia | Armpit | 29 | 97$\frac{2}{8}$ |
| | | | Lumbar part of spine | 26½ | 91$\frac{5}{8}$ |
| | | | Thigh | 18½ | 73$\frac{5}{8}$ |
| | | | Leg | 17 | 70$\frac{2}{8}$ |
| | | | Sole of foot | 14½ | 64$\frac{5}{8}$ |

* This case is numbered 4 in Heine's table.

*Cerebral paralysis of children.*

| *No.* | *Age.* | *Form of paralysis.* | *Part measured.* | *Degree of temperature.* R. | F. |
|---|---|---|---|---|---|
| 1 | 10 years | General paralysis. Perfect loss of motion and sensation | Armpit | 30 | $99\frac{4}{8}$ |
| | | | Spine, above the kyphois | $28\frac{1}{2}$ | $96\frac{1}{8}$ |
| | | | Thigh | 27 | $92\frac{6}{8}$ |
| | | | Leg | $25\frac{1}{2}$ | $89\frac{3}{8}$ |
| | | | Sole of foot | 25 | $88\frac{2}{8}$ |
| 2 | 10 „ | Ditto. | Armpit | 29 | $97\frac{2}{8}$ |
| | | | Spine, above the kyphois | 28 | 95 |
| | | | Thigh | 27 | $92\frac{6}{8}$ |
| | | | Leg | 26 | 90 |
| | | | Sole of foot | 26 | 90 |
| 3 | 7 „ | Paraplegia. | Left side, armpit | 29 | $97\frac{2}{8}$ |
| | | | Middle of spine | 27 | $92\frac{6}{8}$ |
| | | | Thigh | 27 | $92\frac{6}{8}$ |
| | | | Leg | 25 | $88\frac{2}{8}$ |
| | | | Sole of foot | 20 | 77 |

By calculating the averages of the temperature in the preceding table, I find the following result:

| | *The temperature of* | | | *Difference of* |
|---|---|---|---|---|
| | *Thighs.* | *Legs.* | *Sole of foot.* | *thigh and foot.* |
| In atrophic localising paralysis ... ... | $81\frac{6}{48}$ | $74\frac{36}{48}$ | $68\frac{46}{48}$ | $12\frac{8}{48}$ |
| In cerebral paralysis . | $92\frac{36}{48}$ | $89\frac{10}{48}$ | $85\frac{4}{48}$ | $7\frac{32}{48}$ |
| Difference | $11\frac{30}{48}$ | $14\frac{22}{48}$ | $16\frac{6}{48}$ | $4\frac{24}{48}$ |

The last line shows the number of degrees by which the average temperature is *higher* in cerebral paralysis. In the last column to the right we may observe that the differences of temperature in the thigh and foot of the paralysed limb is four degrees and a half less in the cerebral paralysis, or in other words, that the average loss of warmth in the paralysed leg of the atrophic localising paralysis is four degrees and a half greater than in the cerebral paralysis.

The attention which has lately been paid to the changes of temperature in acute diseases has induced me to calculate the averages of temperature, especially as I believe that this considerable diminution of temperature, and the greater difference in the warmth of the various parts of the paralysed limb, forms a pathognomonic symptom of the a. l. i. paralysis.

Besides, the diminution of temperature shows itself not only by the thermometer but also by the discoloration of the skin, which varies in hue from the usual rose colour to blue, interspersed with deep-coloured spots. External influences of cold or heat easily produce bad sores, chilblains, and even gangrenous ulcers.

(*o*) *Fatty degeneration not an essential symptom of this complaint.*—Although the substitution of another especially fatty substance for the atrophied muscular fibres often takes place, it is not an essential symptom of the infantile paralysis, and this is another reason why this complaint should not be called "the fatty atrophic paralysis of infants." The granular degeneration or rather substitution for the muscular tissue is more frequent; the various degrees of this will be mentioned in the section of pathological anàtomy.

(*p*) *Predisposing causes.*—To the predisposing causes of infantile paralysis, usually mentioned by various authors, belong the following:—a blow, a fall, compression, or a sudden pull or jerk on a part (commonly and wrongly attributed to the impatient nurse, especially when the paralysis has been localised in an upper extremity, and the deltoideus has been atrophied), or to a cold which is believed to be caused by a draught, exposure to damp, by sitting on a cold stone, damp grass, &c.

Although sometimes paralytic symptoms have been thus produced, these and some cerebral paralytic affections leave no trace behind, are only temporary, and quite different to the a. l. infantile paralysis, for which Rilliet and Barthes, Kennedy and others, have mistaken it, and Chaissagnac has called it the painful paralysis of children, whilst it is only temporary rheumatism or the effect of the mechanical cause. Pressure on a nerve continued sometimes for hours interferes with the free motion of the part affected, and the child is either prevented or frightened to move the limb because it is very painful; such a state of forced immobility cannot be called paralysis, even if it lasts for some time.

Bouchut's name of "Paralysie myogenique" is based on the inactivity of muscles caused by cold or rheumatism, and he attributes it to the neglect of suitably clothing infants and children, and exposing them in various ways to cold. Although infants and children are more exposed to cold about the neck and shoulders whilst in bed, the infantile paralysis is proportionately less observed in the upper extremities.

(*q*) *Two cases of paraplegia attributed to rolling on damp grass.*—I have seen a boy of eleven years of age who was in perfect health; and whilst on a tour in Wales sat down on the grass (perhaps after a fatiguing walk). It was supposed that this was the cause of a paraplegia brought on within a fortnight. From the account of the symptoms I thought a slight degree of myelitis preceded the loss of power in both limbs, which three or four months later were very considerably atrophied in their whole length, and the temperature lowered. Although he had been seen and treated by those specially engaged in the treatment of paralytic affections, and notwithstanding the prolonged application of electricity, passive manipulations, baths, &c., the atrophy of the muscles lasted, but the growth of the bones continued normally. In course of the last two years the os sacrum began to be deformed, and assumed a kyphotic appearance, which induced one medical man to believe that a heavy blow or fall was the cause of this paraplegia. My impression is that the consolidation of the os sacrum did not progress normally in consequence of the deranged power of assimilation. There was neither an abscess nor pain observed on the angular projection of the os sacrum, which a specialist promised to remove by electricity, which was in vain applied daily during at least six months.

I have also seen a well-built, healthy country girl, who, through sitting on the damp grass, had lost the use of both legs, and, notwithstanding her good health and the application of many kinds of treatment, she has only slightly improved. The atrophy in this case was not very considerable, and there was no tendency to localisation in either of the two cases.

(*r*) *Paralysis according to report caused by difficult dentition.*—During dentition, and especially during the eruption of the first and second tooth, paralysis has been frequently observed without previous convulsions or fever. I have seen several cases where, soon after the gums had been lanced (that is, the following morning), loss of motion had been remarked in a leg and foot, or hand. Amongst these were some children who had been born in India, and dentition was mentioned as the cause. But that, as well as worms, irritation of the stomach, and cold are most frequently *assumed* by parents and nurses to be the origin of a host of infantile diseases that may afterwards exist.

(*s*) *Constitutional state preceding infantile paralysis.*—Authors also differ regarding the constitutional state of the children who are affected by paralysis. Some say that the children are usually weak or sickly; others (Rilliet and Barthes) that they have been subject to eczema, impetigo, catarrh of the nose, and bronchial affections. Bouchut asserts that the children have usually been in perfect health and well developed. The majority of those I have seen had very good and well-developed heads, and the appearance of health and strength, and with the exception of the paralysed parts would have been considered fine children; only a few appeared to be weak and sickly. The majority of Heine's cases have been previously strong and healthy children.

(*t*) *Pathological anatomy.*—As the atrophic localising infantile paralysis is rarely fatal, there have been very few opportunities for post-mortem examinations; amongst these previously used to be mentioned four cases examined by Dr. Meryon, but these belong to a disease similar, if not identical, to muscular atrophy, with fatty degeneration, or to the so-called pseudo-hypertrophic paralysis of children, by which four brothers were affected.

Rilliet and Barthes mention two cases, but one of them seems to belong to another class of infantile paralysis, as there was neither atrophy nor fatty degeneration. The child died in consequence of pneumonia, and no anatomical lesions were found in the brain. In the second case no histological examination of the nervous centres was made. The same may be said of a case of Duchenne, who examined only the muscular tissues. Dr. Fliess has seen in a brachial paralysis a congestion of the meninges of the spinal marrow, at the part where the plexus brachialis originates. A spinal cord may have the normal colour, form, and consistence, and the pathological changes in the nervous tissues might be still very considerable, but the microscopic examination, as well as chromic acid and carmine, are required for preparing the parts to be examined; without these aids no autopsy of paralytic cases is of any use.

Berend has examined a boy who, when a year old, had a varus of the right foot, and died from cerebral affection when five years old. The atrophic right thigh and leg had 8¼ and 5 inches in circumference, while the corresponding healthy parts measured 11½ and 8.

Much serum in the various parts of the brain; a firm gelatinous pseudo-membrane covers the whole space from the nervi optici to the corpora pyramidalia, and the anterior and posterior surface of the spinal marrow to the cauda equina. The paralysed muscles extremely pale, atrophic; the fibres very rarified, and much cellular tissue interspersed, but no fatty degeneration; the nerves not diminished in volume.

Longet's post-mortem examination of a paralytic club-foot in a girl of eight years.

The child died from smallpox six weeks after tenotomy was performed; the whole leg was very atrophic; the paleness of the paralysed muscles very considerable; the nerves of this leg thinner; the anterior roots of the lumbar and sacral nerves, forming the right ischiadieus, brown and ochre coloured, had scarcely a fourth of the diameter of the corresponding nerves on the healthy side; the posterior roots normal.

Dr. Hutin examined a case of paraplegia which, according to the symptoms, was caused by paralysis infantilis when seven years old, and where the patient's legs had been very seriously and extraordinarily deformed by rachitis; he was confined to his bed during his whole lifetime. He died at the age of forty-nine in Bicêtre.

In this case there was the highest degree of emaciation; brain healthy, ventricles, as well as the arachnoidea spinalis contained much serum; the spinal marrow above the eighth pair of dorsal nerves normal, but at this region harder and less in volume; the lower part, instead of having the usual enlargement, as in a healthy state, was diminished to the size of an ordinary quill, and was very hard. In the lumbar nerves the grey substance could not be discerned; the very thin nerves were yellow, dry, and hard; the vessels of the atrophied parts very small; the muscles of these parts had the appearance of white ligaments.

(*u*) *Results of Laborde's autopsies.*—A thorough post-mortem examination was made in the two following cases by Laborde:

An infant of eight months was attacked, after a short fever, by general infantile paralysis; the upper extremities soon recovered their power, but paraplegia continued; when two years old the atrophy was not considerable in the muscles of the legs, which contracted but slightly under electricity. The little patient was very intelligent, and no sign of a cerebral affection was observed. After a few months' treatment by local tonics, and the application of electricity, the limbs recovered some power of movement, when she was suddenly seized by some cerebral disease, with vomiting, strabismus, coma, and died.

With the exception of a well-marked congestive state of the meninges, the brain was normal; the spinal marrow, after the incision of the dura mater, showed normal volume and consistence; it was firm in its whole length, especially in the region of the lumbar enlargement, which, in children of this age, always shows a certain amount of rigidity. As soon as the healthy-looking pia mater was removed, an abnormal coloration of the anterior and lateral columns was visible, particularly the anterior, which, instead of their natural opacity, which was still seen in the posterior columns, were translucent, and of well-marked grey rose colour; the lateral columns had a similar appearance, but less distinctly pronounced. Transversal section of the spinal marrow at various heights showed the extent of the lesion affecting the whole substance of the anterior, and of the cortical portion only of the lateral columns; the surface, as well as the substance of all these parts, from the cerebral to the lumbar region, was greyish, transparent, and less firm than in the normal state.

The anterior and posterior roots did not appear altered to the naked eye.

The anterior and lateral columns showed, when magnified, 250—500 times, a remarkable (proliferation) increase of the elements of connective tissue, both of cellules and nuclei; the last measured $\frac{4-6}{1000}$ of a millimetre, and contained a scarcely visible little nucleus; the cells less abundant had a nucleus and little nucleus. These elementary parts were dispersed in a finely granular substance, composed of extremely thin fibrils. In those parts where these morbid tissues were more copious, the nervous tubes were scarcely to be recognised; they were, and appeared to be swollen and varicose, the amyloid bodies almost entirely wanting.

The small nervous cells, with the copious prolongations of the grey substance of the anterior horns, as well as the anatomic elements of the posterior columns were normal.

The capillary vessels filled with blood did not show any lesion, and neither prolification of nuclei, nor granular bodies were observed on their walls.

The microscopic examination of the spinal marrow (hardened in chromic acid) and of the transversal sections, coloured by an ammoniacal solution of carmine, confirmed the results mentioned above, and that the new production or increase of the connective tissue had taken place exclusively in the longitudinal tubes of the anterior and lateral columns, and that the horns of the grey substance remained in their healthy state.

The sciatic nerves examined in the fresh state, as well as after being immersed in chromic acid, did not show any alteration.

The paralysed muscles, although very minutely and microscopically examined, did not show any lesion of their minute structure, only a slight diminution in the size, and a little discoloration of their fibres were observed.

The second thorough autopsy was made by the same author on a little boy of two years of age, who, when about one year old, had an attack of fever with repeated convulsions, during which he lost consciousness, became blue, and appeared to suffer extremely. From that time he could not walk; whether the upper limbs had been for the moment paralysed is not known, but even if this were the case he recovered their use at any rate very soon. The muscles of the lower extremities began to be rapidly atrophied, and his legs were considerably deformed. For this reason he was placed in the Children's Hospital, where, ten months later, he suffered from ophthalmia and measles, with double pneumonia which caused his death.

*Account of the case.*—The child looked most miserable; he was extremely emaciated, and was covered on the head and face with impetiginous crusts; both his legs were forcibly and constantly bent in the knees, which were turned outwards. The feet were stretched to such an extent that the heels touched the legs, whilst the dorsal surface of the foot was almost in a line with the tibia; the sole of the foot turned inwards and upwards, whilst the toes were slightly bent. Thus, a club foot, known as the worst degree of equinus varus, was formed. This deformity was greater on the left side, and was caused in the knee by the paralysis of the extensors, abductors of the leg, and by the retraction of the flexors, and in the foot by the paralysis and atrophy of the flexors and abductors of the foot by the predominant power and retraction of the gastrocnemii, and of the flexors of the toes; the resistance of these muscles was extreme as proved by the great tension of the tendo Achillis. The slightest attempt to bend the foot was extremely painful and impossible. At the upper extremities, the hands are turned back, the palms completely upwards; thus the wrist appears to have undergone a complete torsion; the fingers were slightly bent, the arm was forcibly stretched at the elbows, whilst the forearm was twisted outwards, and the anterior and interior surface was turned out or upwards. This deformity was less in the right arm and gave way to manipulations, whilst the replacing into a normal position of the left arm and hand was impossible in consequence of the very considerable retraction of the pronators and flexors of this side. Electro-contractility existed only in the gastrocnemii and in the upper limbs; it was very much diminished in the deltoideus and in the muscles of the back and arm.

The muscles on the anterior side of the leg were atrophied to such an extent that they appeared to have been entirely lost, and could not be felt. Dr. Duchenne believed that all these muscles had been transformed into adipose tissue; the voluntary movements had not been entirely lost, but they could be only done in a slight degree.

The slightest pinch was felt acutely and proved hyperæsthesia.

The little patient was very intelligent, understood all he was told, but the great weakness prevented him from speaking; he sat easily, and no spinal stiffness was observed. There was neither strabismus nor any other cerebral symptom; he passed urine in bed, whether involuntarily or only in consequence of his great weakness could not be ascertained.

*Autopsy.*—The brain in a normal state, slight bloody effusion of the meninges, and a very small quantity of reddish serum in the lateral ventricles. In the spinal cavity a thin layer of a turbid liquid, surrounding the spinal cord outside its membranes.

The spinal marrow increasing in volume from the top downwards, where a fluctuating tumour of the size of a pigeon's egg is found; a puncture in the spinal arachnoidea over the lumbar enlargement permits the escape of a yellowish turbid liquid, of a thick and almost gelatinous consistence (about 100 grammes in quantity); the tumour entirely disappears after the escape of the liquid.

The spinal pia mater is, in its whole extent, reddish; on its surface are very abundant vascular nets (*lascis*) and slight traces of white and milky stripes are seen which extend to the prolongation of the roots of the nerves.

The spinal marrow itself is in the whole length sufficiently firm, and appears externally normal; but when transversely dissected at various parts it seems gelatinous and transparent.

With the exception of the congestive state of the surrounding membranes, the anterior and posterior roots were found (under the microscope) in a healthy condition.

Although the histological examination of the marrow in its fresh state is rather difficult, it was proved that the small and large cells, and the tubes of the white substance, and of the prolongations of the grey substance were normal, and that there was no production of new tissue in the posterior column, and in the fundamental central substance; but this was the case in the anterior column; the longitudinal tubes were less numerous than in the healthy state; in some places they were entirely wanting, and those which remained were swollen, varicose, and as if broken in pieces. This was especially in the peripheric and superficial parts of the anterior column. The elementary parts of the nervous substance were altered in their structure, separated in fragments, and more or less granular little bodies were infiltrated within them; the capillary vessels of the pia mater, as well as of the peripheric nervous substance in contact with this membrane, show an increase of their nuclei, and their walls are studded over fully with a number of exudated corpuscles. This condition of the capillaries and nervous substance existed especially in the lumbar region of the cord, and was also very visible in the fibrous prolongations surrounding both roots of the spinal cord.

The microscopic examination of the spinal marrow saturated in chromic acid confirmed the previous observation in the peripheric parts, and in the walls of the capillary vessels.

The nerves of the arms and legs were found in a healthy state, with the exception of the left sciatic, in which the number of primitive nervous tubes was smaller in comparison with the other nerves, whilst the fibrillary elements of the connective tissues were abnormally multiplied.

The muscles of the upper extremities atrophied in various degrees; on the right side their size diminished, the colour normal, the deformity observed during life still present in a very slight degree. The changes on the left side are more marked; the deltoideus exists only in its anterior half, the rest is reduced to a thin, whitish little (bandelette) band of a fibrous appearance, and does not show the slightest trace of the normal muscular tissue. The super- and sub-spinalis scapulæ are partly atrophied; the other muscles of this limb have also lost in size, are very pale and discoloured, but still show traces of the fleshy structure.

In the lower extremities all these changes are still more considerable than those just described, and, notwithstanding they are atrophied to the highest degree, the skeleton of the muscles does not show the yellowish discoloration characteristic of the adipose or fatty degeneration. The details of this post-mortem show that in this case a previous and a recent pathologic process has taken place. The first left its traces in the changed structure of the nerve substance, whilst the recent and acute process shows its effects by the exudation and congestion, and accounts for the more or less retraction and atrophy of some muscles.*

Cornil found in a woman, forty-nine years old, whose paralysis dated from her second year, complete fatty degeneration of the muscles with atrophy of the primitive fibres, complete fatty degeneration of the nerves with atrophy of the nervous tubuli, and of the antero-posterior bundles of the cord, with production of amyloid corpuscles throughout its entire extent.

Drs. Bastian and Duchenne have found changes somewhat analogous to those of Laborde in the spinal cord after concussion and traumatic lesion. Bastian saw very extensive areas of degeneration consisting of atrophied nerve-fibres, new connective-tissue elements and granulation corpuscles. Duchenne found the muscular symptoms consequent on traumatic lesion exactly the same as those in the atrophic paralysis of infancy.

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* The two post-mortems by Laborde are the best hitherto made, and there is no reason why Dr. Radcliffe (in Reynolds's *System of Medicine*) should assert that pathological anatomy has hitherto failed to show other than negative results.

### *Granular degeneration.*

(*u*) *Changes of muscular tissue in the atrophied parts.**

FIG. 1.

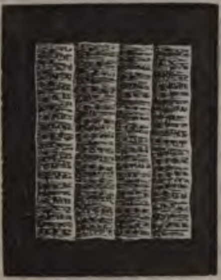


FIG. 2.

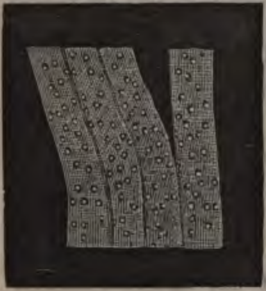
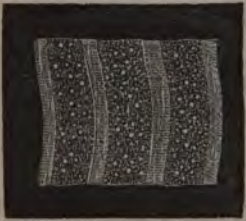


FIG. 3.



In the first stage (fig. 1) traces of the transversal striæ are still visible, but the number of striæ is very much diminished, and separated by wider spaces, which are filled with molecular and opaque granules; a number of such granules cover also the remaining muscular bundles (fascicles) with their striæ. The granules are dissolved neither by alcohol nor ether, but by diluted acetic acid. This pathological state is found in the muscles, which in appearance are least changed, and have still retained some reddish fibres to be observed by the naked eye.

In the second stage (fig. 2) the traces of transversal striæ have almost disappeared; only longitudinal and not undulating fibres are seen; in the primary and secondary bundles (fascicles) the granules are very abundant.

The striæ disappear completely; the remaining fascicles, consisting of fibres, only diminished in number, are covered with a still larger quantity of granules (fig. 3); the inter-fascicular spaces are filled with the compact fibres of the connective tissue, with a few nuclei dispersed.

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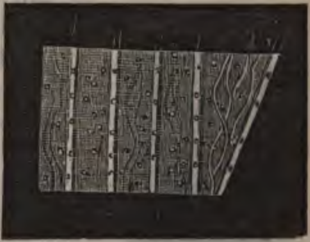
* The first four woodcuts are copied from Laborde.

In the fourth stage only the skeleton of the muscular bundles is seen; these contain but traces of longitudinal fibres; granules are predominant, and fill the bundles, of which only a very few remain. The inter-fascicular spaces being still larger, contain only the abundant fibres of the connective tissue.

In the last stage all traces of muscular tissue, as well as of the granules, disappear; only the empty transparent and hyaline tubes of the myolemma remain with a few granules on their walls (fig. 4). These tubes are separated by large spaces, and are surrounded by fibres of connective, fibrous, and elastic tissue.

FIG. 4.



The last two stages are found where the muscles had entirely disappeared, and had been replaced by a kind of whitish band.

Although my extracts on the pathological anatomy of this remarkable disease have been very shortened, they demonstrate clearly the changes which take place in the spinal marrow, they prove that there is a material lesion in a central nervous organ, show the progress of atrophy; further, that, notwithstanding Duchenne's authority and diagnosis, no fatty degeneration has taken place, and that the substitution of the fatty tissue for the muscular is not an essential characteristic of the localising atrophic infantile paralysis. The fatty degeneration is another form of the disease, the various stages of which are seen in the following diagrams.

### (*v*) *Fatty degeneration.*

The following diagrams* show the various stages of the

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* These have been copied from those drawn and described by Dr. Mandl, and published in Duchenne's *Electricité localisé*, first edition, 1855, pp. 558-559.

*fatty* degeneration, microscopically examined, and the difference from the *granular* degeneration.

FIG. 5.

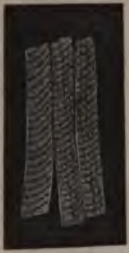


FIG. 6.

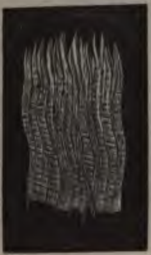


FIG. 7.

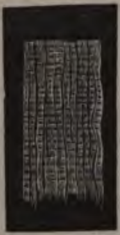


FIG. 8.

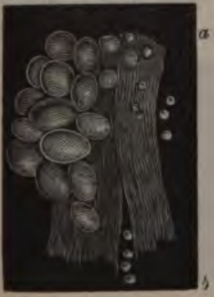


Fig. 5 are the normal fibres, with transversal stripes; traces of longitudinal fibres are still seen; such fibres have been found in muscles which had retained their colour, and during life voluntary and electric contractility, as observed by Duchenne.

Figs. 6 and 7, the transversal stripes are less distinct, and in many places interrupted; here and there they disappear, and finally no trace of them is left; but the longitudinal fibres are more and more visible.

Fig. 8, the muscular bundle is composed only of longitudinal fibres; the transversal stripes have entirely disappeared. Outside the muscular fibres fatty tissue is seen, which consists (*a*) of round or longitudinal cellules. Besides these there are (*b*) small drops (gouttelettes) of fat deposited *within* the muscular fibre.

Fig. 9, the longitudinal fibres, having retained contractility, appear undulated.

Fig. 10, the longitudinal fibres are less distinct; the molecules of fat are more copious; and in fig. 11, these fat molecules being still more numerous, cover almost entirely the muscular fibres.

Fig. 12, the longitudinal fibres have *entirely* disappeared, the fat molecules are very dense and not very distinct, especially towards the axis of the muscular bundle.

Fig. 13, the fat is still more abundant and more diffused, which causes the greater transparence of the muscular bundle.

Fig. 14, the molecules of fat cannot be seen distinctly; the whole bundle consists of an amorphous substance.

Each stage of fatty transformation is marked by an increased discoloration of the muscular fibre, that is, the change of muscular texture is in a direct ratio to its discoloration.

### 7. *Paralytic deformities.*

The following are the most frequent deformities caused by the atrophic and localising paralysis.

When any of the four principal or of the intermediate abnormal positions of the foot is permanently caused by any pathological process, the foot is called clubfoot, talipes.

The various deformities of the foot are classed according to the direction of the axis of the foot, which can be moved down by extension (*equinus*), inwards by adduction (*varus*), outwards by abduction (*valgus*), and up by flexion (*calcaneus*). Besides these there are the intermediate positions caused by combination of flexion and extension with abduction and adduction; thus *equinus-varus* and *equinus-valgus* are caused by predominant extension of the foot, with the point directed inwards or outwards. If the adduction or abduction is the predominant form, and the extension less developed, the

Fig. 9.

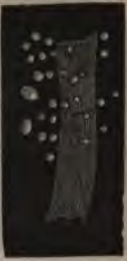


Fig. 10.

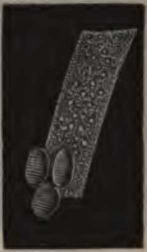


Fig. 11.

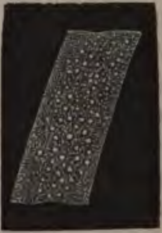


Fig. 12.

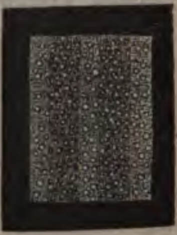


Fig. 13.

Fig. 14.

deformity will be called *varus-equinus* or *valgus-equinus*. *Calcaneus-varus* or *calcaneus-valgus* is caused by predominant flexion of the foot, while the point is directed inwards or outwards.

Flexion and extension takes place in the joint formed by the astragalus and the tibia and fibula.

The adduction and abduction takes place in the joint formed by astragalus and calcaneus, and in the medio-tarsal joint, whilst the intermediate movements act on all these joints simultaneously.

### 8. *Talipes varus equinus*

Is the most frequent. The foot is in a state of adduction and extension, the point of the foot is directed inwards and upwards, the external margin of the sole of the foot presses on the ground, while the internal margin of the plantar region affords no support. When no curative means are employed the inversion of the foot increases till the internal margin is directed upwards and forms a right angle with the tibia. The internal ankle is not visible, whilst the external projects, appears lower and more backward. The dorsum of the foot is very convex, whilst the sole is very concave and furrowed lengthways. The weight of the body rests on the rounded, almost half circular external margin of the foot, the skin and cellular tissue covering this part becomes callous, and serves for the sole. The big toe is usually abducted and separated from the other toes, whilst the sole is turned inwards, the dorsum outwards, the inner margin upwards, and the external margin downwards. The constantly tense tendo Achillis is directed obliquely from without *in*wards; the calf of the leg is never formed. The heel drawn up and inwards is the posterior extremity of a curve formed by the big toe and the internal border of the foot; and when the patient stands the heel does not touch the ground.

Fig. 15 represents paralytic clubfeet. The right foot is varus equinus, of a boy affected with paraplegia and paralysis of the erectors of the spine. The patient was sitting and the legs hanging down when the drawing was made.

Fig. 16 the legs of a boy eight years old; the atrophy of the right leg is very considerable, and the right foot is an equinus varus; the left foot is slightly equinus valgus, and without any atrophy. This patient was not able to bend the right knee.

FIG. 15.

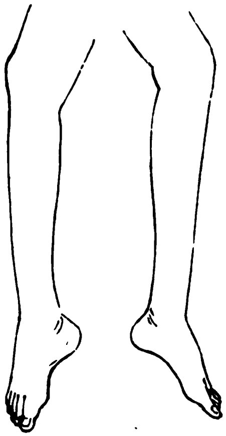
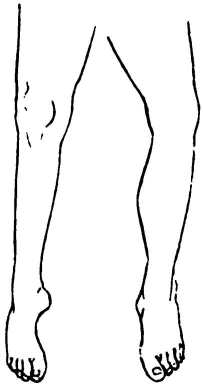


FIG. 16.



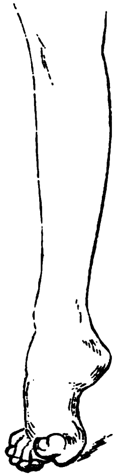
### 9. *Talipes equinus*

Is the second next in frequency, and is very frequently combined with a slight varus.

The characteristics of the pes equinus are that the foot, being in extension, forms almost a perpendicular line with the leg. The heel is drawn up, and the patient walks on the plantar surface of the toes; the sole is very concave, the dorsum convex. In proportion to the longer duration the toes become much stronger than the rest of the foot. The muscles and bones of the leg are imperfectly nourished, the tendo Achillis is very tense, and the muscles of the calf very shortened; in some cases the extensors of the toes are paralysed and the flexors sound. In these cases the patient walks on the back of the toes.

Fig. 17 is a more advanced paralytic equinus with extension of the metatarsal part of the big toe and *flexion* of the last joint.

FIG. 17.



CASE.—Miss —, about eighteen years old, dark, apparently very well built, was paralysed in consequence of her father refusing to allow her to marry some one whom she loved. She had lost the use of the right arm and leg. The extensors of the forearm and fingers having lost their power, the elbow was contracted, and the flexors of the foot having been paralysed, she had a pes equinus, and the gastrocnemii were to such an extent contracted that the mother consulted me about a tumour in the calf. External power or manipulation was scarcely sufficient to replace the foot in its normal position. But I succeeded in proving that there was neither swelling nor tumour, by inducing her to stand with her entire weight on the right leg only, which caused a passive extension of the muscles of the calf, and the disappearance for the time of the spurious tumour; this case was also remarkable from her incapability of speaking, and instead of an affirmative answer to any question she said only "certainly," but she was able to *repeat* words and small sentences which I said first. She understood all she was told, but it appeared that her power of expressing her ideas by words was lost.

### 10. *Talipes valgus*

Is less frequent: the foot is in abduction, the toes are directed outwards, the internal ankle projects, the internal margin of the foot with the big toe presses on the ground, whilst the external border of the foot gives no support. When the complaint is not arrested the deformity of the foot increases to such an extent that the patient walks on the malleolus internus, and on the inner part of the dorsum of the foot. The cellular tissue and the skin covering these parts become callous; this deformity is also combined with an inversion or incurvation of the knees (genu valgum), of which I have had several cases under treatment.

FIG. 18.

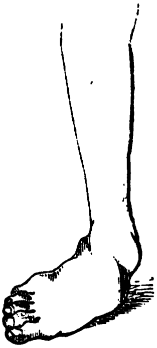
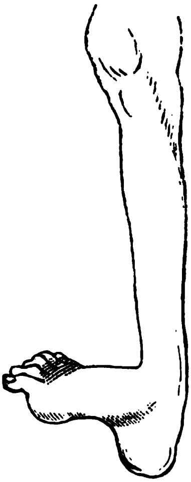


Fig. 18 is a more advanced stage of valgus; the eversion of the foot is very considerable.

## 11. *Talipes calcaneus.*

FIG. 19.



This form is rare: the foot is in flexion, the dorsum forms with the leg a more or less acute angle. The gastrocnemii are relaxed; the weight of the body rests entirely on the heel, which is the only part of the foot which touches the ground. The anterior part of the foot is raised; when the extensors of the toes are paralysed, a kind of arch is formed in the sole of the foot, and this is one of the combinations of this form of clubfoot. But it is very rarely that the calcaneus is not associated with a slight abduction or adduction by which the calcaneus valgus and varus is formed.*

Fig. 19.—Paralysis calcaneus in a more advanced stage, with contraction of the planta pedis.

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* According to the predominant character of the various forms of clubfoot, the deformity is named. Thus, equinus-varus means that varus is only a combination or an addition to the equinus, whilst varus-equinus specifies that varus is predominant and equinus accessory. There is even a variety of valgus-varus or varus-valgus; in these cases the first word designates the character of the deformity in the ankle-joint, whilst the position of the toes is in a contrary direction.

## 12. *Congenital clubfoot.*

'There are artificial classifications of the varieties of clubfoot. For practical purposes the forms I have mentioned are sufficient.

I have only to add that clubfoot is also *congenital* and acquired, and traumatic. In the congenital form there are frequently also deformities of the bones of the foot present; if only the muscles are unequal in their action, atrophy to a very considerable degree is rare. After protracted neuralgia, rheumatism, burns, caries of the bones, ulceration of the soft parts of the foot, and especially in strumous constitutions, clubfoot is not rare.

After violent external injuries, clubfoot has sometimes the character of paralytic clubfoot.

Fig. 20.

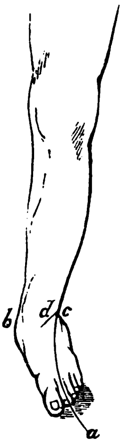


Fig. 20. *Pes valgus congenitalis.**

(*a*) The deviation of the axis of the foot. The heel and the external margin of the foot are raised.

(*b*) A projection caused by the malleolus internus, astragalus, and os scaphoideum.

(*c*) Creases of the skin which hide the tendo Achillis, and underneath which the heel is deviating considerably outwards.

(*d*) Malleolus externus is scarcely visible.

Fig. 21. *Pes equinus congenitalis.* (Delpech.) Slightly complicated with *varus.*

(*a*) The deviation of the axis of the foot towards the plantar surface and the internal margin.

(*b*) The toes on which the whole weight of the body rests.

---

* *Delpech Chirurgie Clinique de Montpelier,* tome i, Paris and Montpelier, 1853.

(*c*) A projection formed by the malleolus externus and astragalus.

(*d*) A prominence formed by the cuboid and cuneiform bones, and the posterior (but here upper) ends of the metatarsal bones.

(*e*) Creases of the skin covering the very tense tendo Achillis.

Fig. 21.

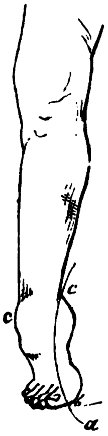


Fig. 22.

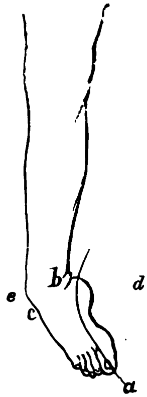


Fig. 22. *Varus equinus congenitalis.* (Delpech.)

(*a*) Shows the torsion of the foot, deviation of the axis of the foot (down inwards and towards the external margin).

(*b*) Creases of the skin covering the tendo Achillis, which is deviating from the normal direction.

(*c*) That part of the back of the instep and of the toes on which the weight of the body rests while walking.

(*d*) Malleolus internus slightly developed and hidden in the tibio-tarsal articulation.

(*e*) Malleolus externus very prominent.

Fig. 23.—Congenital left pes equinus varus in a child of six months.

Fig. 24.—Right foot of the same child.

FIG. 23.

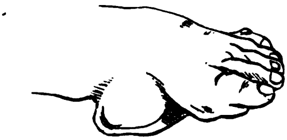


FIG. 24.

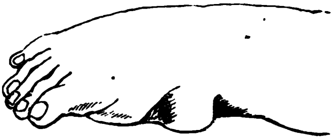


FIG. 25.

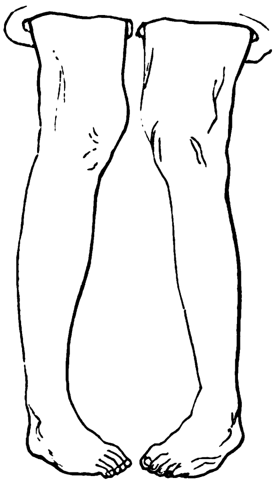


Fig. 25.—More advanced state of congenital pes varus; both legs are drawn in their natural position up to the thighs, in order to show the disproportion in the knee-joints, as well as the relative position of both feet towards each other; the feet are placed with their toes almost opposite to each other, and are remarkably broad and short, especially in the region of the heel, and in the middle of the instep. The arch of the instep is large; and the rotation along the *outer* margin considerable; the knee-joints are turned inwards; the condyli femorum interni are opposite each other; the patellæ do not participate in the rotation, but are placed as usually on the anterior surface. Thus the knee-joints appear to be dislocated. The small size of the patellæ is remarkable, which fact was first observed in those suffering from clubfeet by Ammon.

The diminished development of the knee-pan is explained by the patient, when he walks, using his legs by raising them in the hip-joints, whilst the knees remain more or less stiff; and the feet moved in a segment of a circle are placed alternately one before the other.

## *Talipes calcaneus congenitalis.*

Fig. 26.—The foot is bent upwards to such an extent that

the instep almost touches the front of the leg, and the weight of the body is supported when walking by the posterior tuberosity of the calcaneus. The toes are bent, but the foot is not twisted to either side, as in valgus or varus.

Fig. 27 also represents a congenital calcaneus, but the acute angle formed by the foot and leg is smaller than in fig. 26.

Fig. 28 is the posterior aspect of a talipes calcaneus, with the elongated tendo Achillis. (Ammon.)

*Pes varus congenitalis.*

Fig. 29 represents a more advanced degree of right club-foot. The foot is broad, short; the malleolus externus very much projecting; the muscles of the calf are very tense.

Fig. 30 is a similar left club-foot. The development of the external margin of the foot which serves for the sole is more marked.

Figs. 31 and 32 represent the two feet (figs. 29 and 30) seen from the sole.

The soles are remarkably broad, and that part of the foot nearest to the toes is very strongly developed; the great tension of the tendo Achillis is more seen.

FIG. 26.

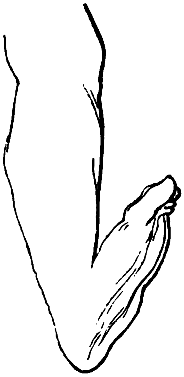


FIG. 27.

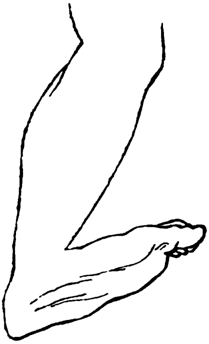


FIG. 28.

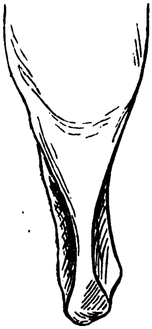


FIG. 29.

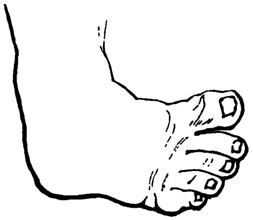


FIG. 30.

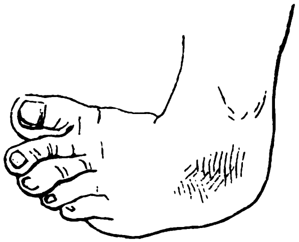


FIG. 31.

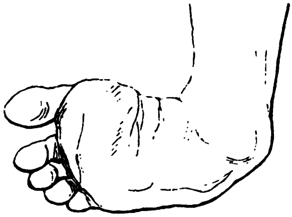
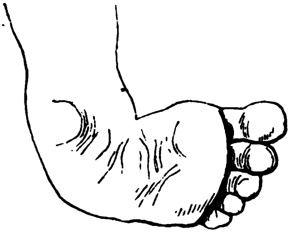


FIG. 32.



### *Pes valgus congenitalis.*

FIG. 33.

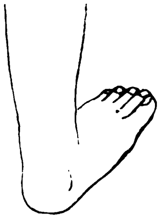


Fig. 33.—A fœtus of six months. The dorsum of the foot is not vaulted, but flat and broader than usual; the internal margin has not its natural curve; the sole touches the ground in its entire surface; the heel is prominent and directed slightly inwards.[*]

## *The paralytic deformities of the knee-joint.*

### *Genu incurvatum* (valgum) *paralyticum.*

The knee forms a slight arch, with the convexity inwards towards the mesial line of the body. The thigh-bone is placed in an obtuse angle to the leg, which *slants* outwards.

[*] All figs. of congenital deformities are copied from Dr. Ammon's work, *The Congenital Surgical Diseases of Man*, Berlin, 1842.

If both legs are simultaneously affected, the deformity is usually known as *knock knees*. The patient when standing presses one knee towards the other; the feet cannot touch each other at the internal margin; and with more advanced stages a talipes valgus is developed; the hip-joints are usually slightly contracted, and this causes what is called the *cock's gait*; in the advanced stage the adduction of the knees attains such a degree that it is scarcely possible to separate them, and in this case the patient cannot walk, and shuffles himself along with difficulty, even when he has sticks or crutches. The abductors, the rotatores, and the glutei are the muscles most frequently paralysed.

Fig. 34.

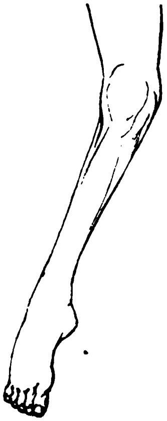


Fig. 34 is a paralytic genu incurvatum combined with pes equinus.

### *Genu excurvatum* (varum) *paralyticum*

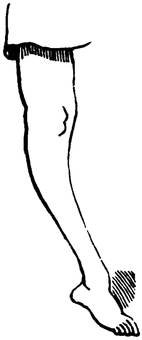
is a sort of bow-leg, but not from rickets (although the combination of rachitis and paralysis occurs sometimes); there is no deformity of the long bones of the lower extremity, but a slight arch is formed in the knee-joint, with the convexity *out*wards.

The adductors of the thigh are more or less paralysed; the ligaments of the knee and some joints extremely relaxed; if both legs are simultaneously affected, the knees are contracted by retraction of the flexors of the leg, the vastus being also paralysed; the legs and knees are, as soon as they are placed together, separate, and fall again outwards. Fig. 40 shows this state, which the French call the Polichinelle's legs.

### *Genu recurvatum*

is a less frequent deformity; in the normal state, when the foot is placed straight in front of the tibia, and the leg well stretched, a slight arch is formed in the knee,

Fig. 35.



with the convexity *back*wards; this arch is considerably increased when the flexor muscles of the leg are paralysed, and the ligaments in the knee-joint relaxed; this abnormal convexity, of which the knee is the highest point, forms the characteristics of this deformity.

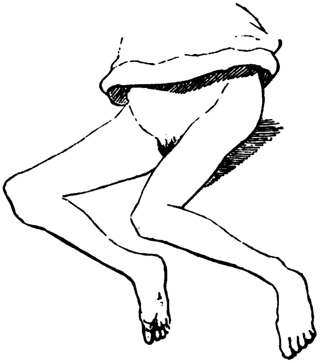
Fig. 35 is a paralytic genu recurvatum with pes equinus.

### *Contracted knee.*

The angle formed by the leg and thigh varies from an obtuse to an acute angle.

The extensors of the leg are paralysed.

Fig. 36.



This deformity rarely occurs alone, but in combination with club-foot, contracted hip, &c.

The paralytic deformities of the knee-joint vary also often in both legs, and one genu is (valgum) *in*curvated, the other (varum) *ex*curvated. Sometimes one knee is only affected, whilst the other leg is either entirely sound, or a club-foot present.

Fig. 36 is a paraplegia, with contracted hips and knees; the right is genu excurvatum, the left genu incurvatum.

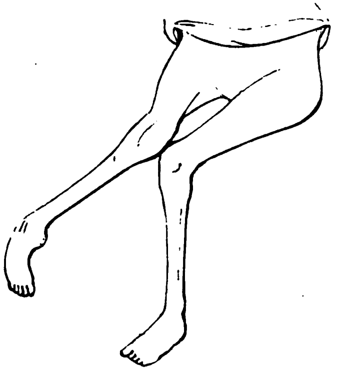
## *Paralytic affections of the hip.*

### *Contracted hip.*

When the glutei are paralysed, the psoas and iliacus internus being without antagonists, cause the deformity which is usually combined with an inward turned position of the thigh, in consequence of the muscles which turn the thigh outwards being weakened; if both hips are affected incurvation (lordosis) of the lumbar part of the spine is often present.

Fig. 37 is a case of paraplegia with contracted hips, knock-knees, and varus of both feet; the atrophy of both legs is very far advanced.

Fig. 37.



### *The relaxed or loose hip.*

When all the muscles round the hip-joint are paralysed, and the ligaments relaxed, the whole leg dangles and swings about like a lifeless part; turning or bending of the lumbar part of the spine is the only mode by which the hip is apparently moved, or rather *pulled* in the direction of the spinal movement. The thigh can be moved passively in all directions without causing the patient any pain, the outlines of the hip-bone and femur (the hip-joint being covered only with the atrophied glutæi) are easily visible or felt under the skin. It is one of the most serious and tiresome processes to improve this state of the hip-joint, especially when it occurs simultaneously in both hip-joints and when combined with a paralysis of the whole lower limb.

## *Paralytic affections of the spine.*

### *The incurvation of the spine, or paralytic lordosis.*

This takes place mostly in the lumbar part of the spine; the erectors of the spine are paralysed, while the psoas remains active. This deformity occurs frequently with paraplegia; when the patients have not lost all power of stretching their knees, they try to walk while bending the body almost in a right angle with the thighs and while the arms, usually very strong, are placed on chairs or on two sticks. In fact, they assume the position of a quadruped whilst walking, and during this action the indenture of the spine is particularly strong, while the hips seem to rise and fall alternately with each step they are taking in a *lateral* direction.

FIG. 38.

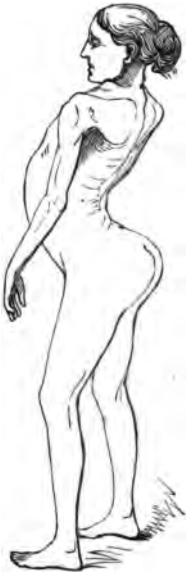


Fig. 38 represents a paralytic lordosis; the patient is not able to stand except when supported and prevented from bending or rather falling forwards.

### *The lateral curvature of the spine*

is observed in hemiplegia, in paralysis of one extremity, and especially of those joints by which the limb is attached to the trunk, and of the muscles of one side of the trunk which are more or less atrophied.* The shoulder-blade and the hip-bone are sometimes arrested in their growth, and the careful observer will find a great difference between the affected and the healthy part. When a leg is shorter, or the power of standing on one leg, of stretching one knee, and of using one ankle-joint is diminished or in any way interfered with, lateral curvature must be formed as a compensation for the deficient functions. The majority of these compensating forms of lateral curvature are easily prevented by supplying the deficient length of the leg, by supporting contrivances which prevent the deviation in the knee and ankle-joint.

---

* Mr. Barwell attributes the majority of lateral curvatures to paralysis of the serratus major on one side. Neither my own experience nor the physiological study of the functions of this muscle by Duchenne confirms this hypothesis.

### *The paralytic kyphotic curvature.*

This occurs only in those cases where the little patients are to such an extent paralysed in the limbs as well as in the trunk that they are unable to sit. The spine forms one round arch from the neck to the os sacrum with the convexity backwards; *kyphotic* means here only this direction of the spine, but not an angular projection as it occurs in Pott's disease.

### *The paralytic deformity of the neck.*

Amongst children cases occur in which the head falls down, forwards, and slightly sideways, in consequence of the paralysis of some of the muscles of the neck; paralysis of one sterno-cleido mastoideus causes wry necks without disease of the ligaments, intervertebral substances or the cervical vertebræ. Cases of *paralytic* wry neck due to neuralgia or rheumatism, have been observed by myself several times in children and adults; very considerable single and double lateral curvatures have been caused in some instances through neglect of attending to the primary wry neck.

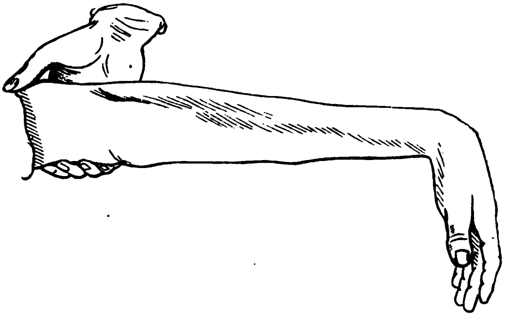
*The deformity of the shoulder* by atrophy of the deltoideus has been already mentioned; that which is caused by atrophy of the large pectoralis I have not seen. The paralysis and atrophy of the muscles which adduct the shoulder to the spine, or pull it downwards, causes that particular position of the shoulder-blade where the internal edge of this bone is directed upwards, and the lower angle projects backwards above the latissimus dorsi. In Duchenne's *Electricité localisé* several cases of this deformity are described.

### *Paralytic deformities of the elbow and wrist-joint.*

Contraction of the elbow-joint, with inversion of the forearm and contraction of the wrist and fingers, is the most frequent form in cerebral paralysis, especially in hemiplegia.

In a case of atrophic localising paralysis which came under treatment eighteen months after the invasion of the disease, even the passive pronation and supination of the forearm was entirely impossible; in the same arm there was eversion of the wrist; the dorsum of the hand formed a right angle with the forearm; while the paralysed fingers, in appearance stout and fat, were constantly bent. There are other forms in which the hand is deformed analagous to the various forms of club-foot; the fingers are also deformed in one or several joints, mostly contracted, sometimes in the form of bird's claws, according to the various muscles of these parts which are paralysed; sometimes the ligaments are relaxed to such a degree that the fingers can be bent towards the dorsal surface as easily as towards the palmar side.

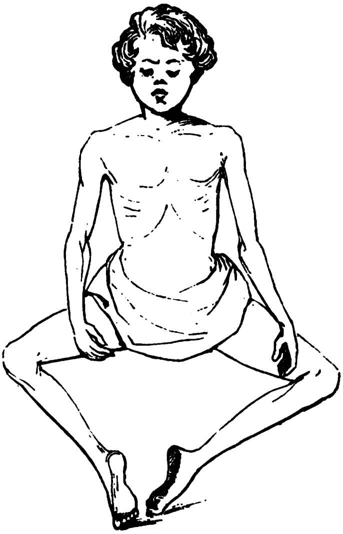
Fig. 39.



## *General paralysis.*

Fig. 40 represents a boy whose limbs are still paralysed, after having recovered his power of moving the neck and back. It is one of the cases in which the adductors of the thighs are powerless, the knees slightly contracted, the feet are talipedes equini. This child's legs can be placed together with the knees touching each other, but they must be bound or held together, otherwise they return immediately into the position shown in the engraving. The atrophy of the deltoideus on the left side is shown by the greater projection and the more distinct outlines of the left acroma.

FIG. 40.



The outlines of the legs and of the arm show the more advanced progress of the atrophy of these parts.

The few engravings will be sufficient to give at least a general idea of deformities caused by paralysis. I could not enter into a minute and more graphic description, and have merely pointed out the most frequent forms which very rarely affect one joint only, or a single part only. The combinations are very numerous and I may state, as a rule, that the single deformities increase not only in intensity, but that their combination with others will be more numerous in proportion to the length of time the suitable means for their treatment are neglected.

Much precious time is lost by a still prevailing fancy even amongst those who are considered to be in the foremost ranks of the profession, that the child will grow out of its deformity, and again by the indiscriminate application of rubbing, electricity, mechanical contrivance, and strychnine. If the rubber styles himself a medical rubber, eminent medical men will have their patients rubbed without giving any special instructions what kind of friction, manipulation, or movement should be done in the individual case.

How electricity and orthopædic contrivances are abused will be mentioned under the head of these agents. In consequence of the good results obtained by *Nux vomica* and *Strychnine* in some forms of peripheric paralysis, these drugs are constantly prescribed in paralytic affections from central causes, although the majority of medical writers agree that they have not answered their expectations.

### *Diagnosis.*

### *The (atrophic and localising) infantile paralysis*

which is the most frequent source of shrivelled, deformed, half-dead limbs, clubfeet and clubhands incurved, excurved, recurved, and contracted knees, and of many other sad deformities, has the following characteristics:

1. In many cases a feverish state of longer or shorter duration precedes; sometimes gastric typhoid remittent fever, measles, scarlatina, whooping cough, pneumonia. In other cases no fever (or of such a slight character that it is not noticed) is observed.

2. The access of a more or less general paralysis is sudden, and whilst the infants are in good health, and its intensity is not in proportion to the feverish state or to the slight convulsion if either of these two conditions precede it.

3. A progressive tendency of the general paralysis to localise itself in one or two limbs, or of the paralysis of a whole extremity, to localise itself in some groups of muscles or even in a single muscle.

4. The prevalent flaccidity and flabbiness of the paralysed parts.

5. The progressing atrophy of the muscles, ligaments, and bones.

6. The diminution of temperature.

7. A more or less prevalent deep blue-coloured cyanosis in the paralysed parts.

8. Tendency to chilblains in the affected limbs.

9. Deformities of various kinds of which the most frequent are clubfoot, especially—

(*a*) Talipes equinus; talipes varus; talipes valgus; talipes calcaneus; talipes equino varus.

(*b*) Genu varum with talipes equinus, and if this deformity affects both legs, it gives the appearance of cardboard figures with moveable limbs when the string pulls the thighs outwards and the legs are dangling.

(*c*) The deformity produced by the atrophy of the deltoideus which gives to the shoulder-joint an angular or flat appearance.

10. Electro-mobility in the beginning very slight, later entirely wanting; no movement by reflex action.

11. Complete loss of any influence of the stimulus of the will on the paralysed parts, and consequent impossibility of any voluntary movement in the paralysed muscles.

12. Sensation normal; sometimes hyperæsthesia in the early stage proportionate to the subsequent loss of power. I have observed local hyperæsthesia several times near the principal trunk of the nerves of the paralysed extremity.

13. Actual or comparative arrest of development in the paralysed parts.

14. Fatty degeneration not a necessary consequence of this kind of paralysis.

15. Want of rigidity near the deformed joints in the first stages.

16. Sphincters not (or only exceptionally) affected.

17. Usually strong and well developed children; the trunk and upper limbs in comparison to the pelvis and lower extremities much developed, except in cases where an arm is paralysed.

18. Talipes varus of one foot, and talipes valgus often a pathognomonic symptom of this paralysis. (Laborde.)

19. The paralysis scarcely ever takes the form of hemiplegia, and even then does not affect the face; when it does, it is always preceded by paralysis of all the limbs.

20. The intellectual faculties and—

21. The general health are unimpaired, notwithstanding the persistence of the atrophic localised paralysis.

22. The arms recover their power quicker than the legs.

23. The muscles which waste most rapidly are the tibialis anticus and the deltoideus.

24. After tenotomy, the ends of the divided tendons do not leave a large interval between each other, because there is no active tonic or spasmodic contraction of the muscles as in cerebral paralysis.

### *Diagnostic symptoms in cerebral infantile paralysis.*

1. Symptoms of cerebral affections produced by any morbid cause precede, during which spasmodic contraction of one leg and arm of the same side frequently takes place.

2. Several and persistent convulsions, attacks of frequent headache, giddiness, indistinct speech, nervous sensations in the ears and eyes, precede the cerebral paralysis.

3. Hemiplegia is frequent; the little patients look like the image of old people with an arm, and hand, and fingers contracted, whilst the forearm is turned inwards a leg is dragged behind them; the face is also frequently affected.

4. There is a hereditary disposition; the father or mother being affected with insanity, paralysis, epilepsy, dipsomania, &c.

5. Children are constitutionally weak.

6. The shape of the head is irregular, frequently an appearance of stupidity, idiotcy, with strabismus and indistinct speech.

7. The intellectual and sensorial faculties are disturbed.

8. The contracted muscles are rigid.

9. Electro-contractility is normal, and even greater than in healthy parts.

10. No atrophy in the beginning; fatty degeneration and atrophy are sometimes consecutive.

11. There is reflex movement.

12. The temperature of the paralysed parts is diminished, but never so low as in the localising atrophic form.

13. Legs recover their power more quickly than the arms.

14. In the paraplegic form the contraction and deformities of the lower extremities is more prevalent, but notwithstanding the severity of these contractions, the patients are able (when assisted) still to move and even walk in some although very tedious manner, and thus retain a power which is entirely lost in the localising atrophic paralysis.

15. The contracted elbow, wrist, hip, knee, or ankle-joint, *can* be stretched, but only by degrees, and with a great amount of force, sufficient to overcome the rigidity of the

contracting muscles; as soon as the external power ceases the muscles contract again.

16. After tenotomy the ends of the divided tendons have a large interval in consequence of the spasmodic contractions.

17. Sphincters are either partially or completely paralysed, and the water is frequently passed when the little patients scream or are frightened.

18. Involuntary tremor or nervous twitching of the limb, and involuntary movement of the fingers and toes, which are usually spread, are observed.

19. The influence of the stimulus of will is not entirely lost, and a few, although very slow, movements are seen in the fingers and toes, wrist, or instep.

20. The deformities in the limbs are combined with spasmodic contractions, rigidity, and stiffness, and sometimes arms and legs are stretched, the extensors of the forearms and legs being spasmodically contracted.

21. With the improvement of the constitutional health and the disappearance of the cerebral symptoms the deformities improve.

22. Pathological anatomy shows the changes caused by hydrocephalus, inflammation, tumours, &c., in the brain.

### *Facial paralysis, or paralysis of portio dura of the seventh nerve (this also combined with cerebral hemiplegia).*

1. Takes place suddenly after exposure to cold or without cause.

2. After disease of the temporal bone.

3. In newborn infants after injuries by forceps or a difficult passage at the birth.

4. Eye cannot be closed, eyelids do not move.

5. Escape of tears.

6. Mouth drawn up on the opposite side.

7. Escape of saliva.

8. Labials cannot be pronounced.

9. Cheeks on the affected side do not resist to the blowing out of the walls.

10. Patients cannot whistle.

### *Diagnosis of paralysis from spinal congestion.*

Dr. Radcliffe* asserts that the (atrophic localising) infantile paralysis is analogous or identical to paralysis from spinal congestion, although only the following symptoms are common to both, whilst they differ considerably in other symptoms.

1. The paralysis is partial.
2. There is hyperæsthesia.
3. Muscles limber, flabby (not rigid).
4. More or less complete recovery is the rule. Negative common symptoms.
5. Sphincters are not affected.
6. Absence of head symptoms.

### *The difference of symptoms in spinal congestion.*

1. Tingling of the tips of fingers and toes.
2. A dull burning aching in the back and limbs.
3. Being tired to death.
4. A hot sponge increases the pain in the back.
5. Respiration shallow and curiously interrupted by sighs.
6. Tendency to myelitis (to increase).
7. No atrophy.
8. The paralysis is always a paraplegia.
9. Pathological changes: engorgement of the veins of the spinal cord and membranes, with some excess of the spinal fluid; infiltration, with blood of the cellular tissue exterior to the dura mater.
10. The disease has been fatal and quickly fatal in some cases.

The first six symptoms are absent in infantile paralysis; with regard to the seventh, eighth, and ninth, atrophy is characteristic in infantile paralysis, which has also other forms besides the paraplegic, and other pathological changes take place, as diminution of the nervous tubuli, &c. See Laborde's autopsies, in the last symptom regarding the prognosis.

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* Reynolds's *System of Medicine*, 2 vols.

I do not understand why Dr. Radcliffe should have chosen of the ten symptoms of spinal congestion four common to this complaint and to infantile paralysis (because two are negative; viz. absence of head symptoms, and absence of paralysis of the sphincters) to prove the identity of the two complaints; and not to have taken in account the other ten symptoms of which the first six are absent, and three others are different in the atrophic localising infantile paralysis.

### *Progressive atrophic muscular paralysis.*

Synonyms.—Paralysis atrophica, wasting palsy; Cruveilhier's atrophy, *progressive muscular paralysis.*

1. Attacks less frequently very little children, but more frequently young adults.

2. Often caused by cold, exposure to inclement weather, sleeping in damp beds or wearing damp clothes; by some complaints of the spinal cord and by traumatic influences.

3. The invasion of paralysis is always gradual.

4. The atrophy precedes the paralysis, and causes—

5. A certain amount of weakness which increases to perfect loss of power in proportion to the progress of the atrophy.

6. Atrophy more frequent in the upper limbs, the ball of the thumb and hand or the shoulder, are often the starting-points, or the neck, the face, the tongue, the thigh, leg, or foot.

7. One or a few groups of muscles only in an upper or lower extremity are attacked, sometimes several limbs, or all the voluntary muscles of the body attacked.

8. According to the number and position of the atrophied muscles the outlines of the limbs or body are changed, round parts are flattened, bones project.

9. Quivering in the affected muscles diminishes with the increase of atrophy.

10. Electro-contractility continues as long as the atrophy is not too far advanced.

11. There is no loss of temperature.

12. If the muscles of the face waste, the features are not

changed by any emotion, and the patient looks stolid and solemn. If the neck is affected the head falls forward with the chin on the sternum or laterally with head on the shoulder. When the forearm and hand are attacked, the claw-shaped hand (*main en griffe*) is the result.

### *Diagnosis of myelitic paraplegia.*

1. The paralysis is usually complete and preceded by great restlessness.
2. The sphincters are paralysed.
3. Anæsthesia.
4. No reflex action.
5. No electro contractibility.
6. Absence of pain, tenderness in the spine.
7. Hot sponge or ice passed down the spine causes a burning sensation in the region corresponding to the inflamed part of the cord.
8. The urine is alkaline.
9. The muscles of the paralysed parts are limber.
10. Tendency to increase.

### *Paralysis after spinal and cerebral hæmorrhage*

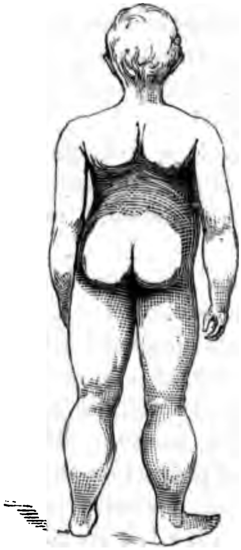
is also sudden, with pain in the spine and violent tetanic convulsions in the first, and with loss of consciousness in the second.

### *Duchenne's pseudo-hypertrophic infantile paralysis, or infantile paralysis with apparent muscular hypertrophy.*

This is a form of paralysis to which Duchenne was the first to call attention, and is a form of progressive muscular paralysis, with enlargement of some muscles, especially of the gastrocnemii, which appear to be hypertrophied, although the increased size is only due to a deposit of fat and areolar tissue between the muscular fibres. About thirty to forty cases have hitherto been described in France, England, and Germany. Two cases were brought before the Pathological Society by Dr. Hillier and Mr. Adams. Duchenne published last year a little book, *La Paralysis Pseudo-hyper-*

*trophique.* He impresses upon the profession the importance of recognising *this disease at an early stage,* and has invented a little instrument to pull out a few muscular fibres from the living patient in order to submit them to microscopical investigation. The disease being progressive and fatal, he asserts that electricity can arrest its development, and thus save the patient. He gives the history of a patient whom he cured. The diagram (fig. 41) which illustrates this form of paralysis is taken from his book, and will convey better than any description the characteristics of this complaint, of which the following are the principal symptoms.

FIG. 41.



*Pseudo-hypertrophic paralysis.*

1. It occurs always in children, and is noticed when they ought to begin to walk.

Those who have been already able to walk feel an increasing difficulty in walking.

2. There is a tendency to arch the lower dorsal and lumbar spine forwards, that is, to form a lordosis of these parts.

3. When an attempt to walk is made the legs must be separated to preserve balance.

4. The power of moving the legs decreases slowly.

5. The upper extremities are thin and get weak.

6. The respiratory muscles lose power.

7. The muscles of the lower extremities, especially gastrocnemii and glutei enlarge, as well as the muscles of the back; they are elastic, but very firm, which state may last two years.

8. This enlargement is caused by a deposit of fat and areolar tissue between the muscular fibres.

9. The muscular tissue of the enlarged parts wastes, the interstitial deposit is absorbed and atrophy results.

10. Involuntary muscles and sphincters are not affected.

11. Hitherto no disease of the nervous system has been observed.

12. It is probable that the cause of the abnormal nutrition of the enlarged parts is caused either by some change in the spinal cord, in the sympathetic nerve or in the blood.

The following is an outline of Hillier's case which I have before named. The boy was eleven years old, his parents in good health; although he walked when twenty-one months old, he could never walk well, neither run nor jump; he waddles with feet apart, and tumbles when trying to walk quickly. His calves have always been large and out of proportion to the other muscles.

Since his third year the power of walking has declined; during the last six months he has been quite unable to walk, he cannot raise himself up in bed, nor stand unless supported; his heels are drawn up, the lower part of the spine is arched forwards when trying to stand. Lately the upper very thin limbs are failing; he cannot cut his food or grasp anything firmly: there is complete control of the sphincters.

Intellect neither very bright, nor very deficient; slow to learn. The calves are still a fair size, but have a peculiar doughy feeling.

Dr. Foster, on February 26th, 1869, in the pathological and clinical section of the Birmingham and Midland Counties Branch, presented a boy aged 9, an excellent example of Duchenne's paralysis, with apparent muscular hypertrophy.

The boy was in the second stage of the disease, the glutei and gastrocnemii enlarged, firm and bulging in contrast to the poorly developed muscles of the upper extremities. The spinal extensors were hypertrophied, and in the erect position the characteristic lumbo-sacral curve was well marked. The boy waddled rather than walked, balancing himself on each leg alternately. When placed on his back he raised himself by turning over, obtaining a point of support for his feet, and then lifting himself by placing his hands on his knees and thighs.*

### 15. *Traumatic paralysis.*

Loss of power; dropping of the injured part of hands, feet, or a whole limb. Atrophy of these parts, sometimes followed by fatty or granular degeneration; lower temperature; pain, swelling, congestion, inflammation and erysipelas soon after the injury; sometimes loss of sensation of cold, heat, contact, or morbid sensations; glossy fingers or toes; arrest of development in growing persons; various deformities similar to those in other paralytic affections dependent upon the various parts which have been impaired.

In traumatic paralysis, as in a local infantile paralysis, the paralytic symptoms mark the outset of the disease, then after a shorter or longer period the muscles supplied from those parts of the cord least affected recover their voluntary movement and nutrition, whilst those which receive their nervous supply from parts more profoundly injured are atrophied, and sometimes fatty or granular degeneration follows.

A little boy nine or ten years old was violently pulled by the arm when an infant by his little brother, and from that period for a long time after the limb appeared powerless. He gradually recovered some use of it, and could move it in any way, and was fond of climbing with it. It was, however, comparatively very weak, and was small like one extremely emaciated. It was not short, but altogether not more than two thirds the size of the other. (Paget.)

A ladder fell on the back of the shoulder of a little girl seven years old, and then broke her leg. The exact manner in which the ladder fell was not known, but the integuments over the scapula and by the side of the neck were severely bruised. She was stunned and unconscious for less than ten minutes, and then perfectly recovered her senses. As soon as she recovered from the shock she called out "Where's my arm?" and from that moment to the time when first seen by Mr. Paget, about four months after the accident, there was perfect insensibility of that limb.

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* A further account of this case and of its treatment, which had not been successful, is published in the *Lancet*, May 7th, 1869.

It had been for a time painful subjectively, and there were some kinds of contact which distressed her, but she could feel no common touch, no heat nor cold, and had only morbid sensations either spontaneously or from some irritation. There had been also total loss of motion in the arm until within three months after the accident, when the pectoral and posterior scapular muscles had regained slight power, every part of the arm had greatly wasted, and it was habitually cold, with slight swelling and congestion of the hand.

### 16. *Arthritic and rheumatic paralysis*

is not so rare amongst the young as is generally believed.

Electro-contractibility continues; pain in the muscles, ligaments, or joints. The constitutional symptoms are the most essential characteristics.

### 17. *Diphtheritic paralysis.*

The preceding diphtheria, the affection of the fauces, uvula, velum palati, impossibility of swallowing, and the greatest weakness, characterise this complaint, which improves in proportion to the recovery of the general strength, although the rate of mortality is very great among children affected with this form of paralysis.

### 18. *Rickety paralysis.*

Besides the constitutional signs, the enlargement and deformities of the bones, of the joints, of the spine and ribs, the large head and the expression of premature age are the principal symptoms, the paralysis is incomplete, and there is a gradual increase of muscular weakness; other forms of paralysis are combined with rickets in cachectic children.

### 19. *Paralysis through Potts' disease.*

Kyphosis of some diseased part of the spine, pain in the spine, psoas, lumbar, and other abscesses, usually paraplegia with rigidity of the legs, paralysis of the bladder, sphincter ani, loss of motion and sensation in the legs, swelling of the scrotum, constipation, are the most common symptoms—many of these as well as the paralysis disappear with the progress of recovery, and when the pressure on the spinal cord or its nerves caused by exsudation or suppuration of the surrounding part ceases.

### 20. *Paralysis after chorea.*

Protracted chorea frequently causes paralysis of those parts which have been involuntarily moved and jerked about. It may be that chorea is merely concomitant, or associated with paralysis and not its cause. Hemiplegia with chorea and slight impediments of the speech is the form which I have observed several times; unsteadiness in walking, shaking the head, bending the body forwards to such an extent that the lumbar concavity of the spine is effaced, while one or both arms with the hand twisted inwards are kept backwards to balance the body; incapability of stretching the knee of one leg, an involuntary or irresistible tendency of walking very quickly, almost of running, which causes sometimes very dangerous falls, considerably diminished power of using one side of the body with the corresponding limbs, deficient power of balancing, are some of the characteristics of this complaint, to which must be added a heavy tongue, a brawling speech, stuttering and stammering in some words, coldness of the extremities and diminution in the size of the weak limbs, although this does not amount to atrophy.

### 21. *Paralysis from epilepsy and convulsions.*

Hemiplegia, paraplegia, and general paralysis are the most common forms. In the hemiplegic form, the deformity of the arm and hand is caused by the paralysis of the extensors; the elbow, wrist, and fingers are mostly contracted, and the fore-arm inverted, the hip and knee contracted, the latter turned inwards, with pes equinus and slight varus.

In the paraplegic form the hips are contracted, adduction of the knee causes the angular incurvation of the knee, and valgus of both feet. When the patient is able to walk he throws himself from one side to the other, and one knee is placed before the other. The character of the gait is *waddling.* If this complaint is left to itself the knees can be scarcely removed from each other even by external force.

Of general paralysis after convulsions, the following is one of the forms I have observed. The whole body appears more or less rigid, the flexors of the elbow- and knee-joints on both sides are paralysed, and all the limbs are stretched and stiff; the thighs are in a straight line with the body; pes equinus varus of both feet; both hands contracted in the wrists. The degree of paralysis and deformity is not equal on both sides; the intellectual and perceptive faculties appear slightly impaired, but the power of speaking is more or less impaired.

### 22. *Paralysis produced by metallic cosmetics.*

Pearl powder is used by nurses and vain mothers to improve the skin of little girls; adult girls use this powder, as well as other cosmetics, into the composition of which preparations of lead and mercury enter; weakly constituted girls are liable to absorb the poison which, by degrees, produces its effects.

Carbonate of lead has been, and is, sold as pearl powder. Dr. Cousins, of Portsmouth, published, a few years ago, a case of a young girl who had applied *such* a pearl powder to her face for some time, and who consulted him for *great weakness in her wrists;* she was sallow, cachectic, emaciated, and very weak; suffered from loss of appetite, unpleasant taste in the mouth, constipation (but had no blue line in the gums), vomiting, lurid spots and superficial ulceration in the legs; the wrists dropped; power of extension of the fingers almost lost and the muscles of the fore-arm very emaciated.

Notwithstanding the internal use of *Iodides of potash* and *Iron, Strychnine,* and *Cod-liver oil,* and external friction, constant exercise, faradisation, and elastic supports for the wrists, the disease continued, and when the arms are extended the hands hang helplessly down by their own weight, and the muscles are shrunken; the sisters of this patient also used this face powder (carbonate of lead), but being in better health were less susceptible, and so escaped the effects of the poison. Children apprenticed to potters and house painters show also similar effects of lead poisoning.

### 23. *Mercurial paralysis*

is characterised by tremulousness and shaking, sallow, cachectic and emaciated appearance, ulcerated condition of the mouth and gums, looseness and loss of teeth. These symptoms are frequently observed in apprentices at gilders, mirror manufacturers, where the glass is covered with mercurial amalgam; it is also brought on by abuse of mercurial internal and external treatment, and by absorption and inhalation of mercury. Thirty years ago, when a medical student, I visited the mercury mines of Idria in Carniola, and there I had an opportunity of seeing the effects of mercurial poisons by absorption through the skin, and by inhaling the air impregnated with mercurial vapours. The mercury is sublimated in large vaulted chambers, and boys and girls used to sweep the walls to which the small globules of mercury adhered. The sweeping is done a few days after the sublimation, but the chambers remain still very warm, and this high temperature favorable to the continual mercurial evaporation is very injurious to those who are obliged to work therein. Silver and gold are extracted on a large scale by amalgamation with mercury in Saxony and Hungary, and there also mercurial paralysis is caused.

### 24. *Paralysis from bad habits, and too early and frequent abuse of the sexual functions.*

Youths and adolescents are more frequently than is generally believed and admitted the victims of bad habits, and I seriously wish to exhort my younger and less experienced colleagues never to forget, while examining young paralysed subjects, cautiously, and without giving offence, to find out whether any of these abuses are not the predisposing cause of the paralytic affection. I have seen instances of little children of the tender age of seven being taught by their older playmates in school or at home to play with the private parts. That the continual practice is necessarily, in proportion to the frequency of its repetition, sooner or later followed by very serious consequences is evident. A certain shyness, trembling and shaking, general weakness, and pains in the head, eyes, and stomach, back, and limbs, loss of appetite, tendency to constipation, difficulty of passing water, coldness of hands and feet, depression of spirits, incapability of reading, fatigue after short walks, dragging of the legs, incapability of sitting up and turning in bed, are some of the symptoms preceding the actual paralysis. In some cases I have traced the bad habit to bad nurses, who, for the sake of keeping them quiet, teach even infants to play with parts that should not be touched. In sickly youths, with sedentary habits and over stimulated imagination, sexual function is too early roused, and, according to circumstances, either self-abuse or frequent sexual intercourse is the result. While collecting notes for this paper I was consulted in four instances, one of insanity under the form of apathy, another of epileptic or similar fits, a third of mental depression and shyness of seeing strangers, and the fourth of incipient paralysis, in which I have traced the complaints to bad habits. Only in the first case I could not hitherto confirm my opinion, because the patient is scarcely able to understand my questions, and unwilling to answer them.

### 25. *Temporary paralysis*

by pressure on a nerve continued for some time.

It happens sometimes that children sleeping with the arms hanging over the back of a chair or of the bed, on awakening find both arms paralysed for some time; this loss of power is caused by prolonged pressure on the brachial nerves. Mr. Paget, in a lecture on some causes of local paralysis,[*] mentions a similar result after tight ligature.

### 26. *Paralysis caused by cancer or tumours in the brain or spine.*

The symptoms are similar to those of cerebral paralysis, or of those of a pressure on the spinal cord, to which are added some symptoms dependent upon the seat of the cancer and tumour, and in all these cases the paralysis is *gradually* developed; a sudden invasion has been observed only exceptionally.

### 27. *Congenital paralysis.*

There is from birth an unhealthy cachectic appearance, deficient form of the head, idiotic or stupid expression, some cerebral affection, intellectual faculties deficient, sometimes strabismus; hemiplegia is the most frequent form, also partial paralysis under the forms of club-foot and club-hand. The most frequent deformity is pes equinus varus. The pes calcaneus is very rare, and the combination of this with the arched instep is never congenital.

As some forms of partial paralysis of children may be taken for *hip disease,* I subjoin the characteristics of this complaint.

### 28. *Hip disease.*

The child carries all its weight on the healthy limb, turns the foot of the affected side inwards when walking, and the toes of that foot are on the instep of the healthy one while standing; striking the head of the femur against the acetabulum by a blow on the heel causes pain; there is also a fixed pain in the knee, heat in the hip-joint increased, and every active movement with that joint causes pain. (West.)

(*To be continued.*)

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[*] *Medical Times and Gazette,* 1864, vol. i, 717.

# ON SUBJECTIVE SYMPTOMS.

By Dr. Henry R. Madden.

If any one point more than another divides our camp it is the estimate formed of the value of subjective symptoms and of the influence they should exert over the choice of medicines. With many they are all-important, while others neglect them to a large extent, believing that there are safer guides to the proper selection of the homœopathic remedy. As in most instances of opposite opinions, much can be said on both sides, and for my own part I believe that neither extreme is right, and that much of truth may be found in both directions. My special object, however, in the present paper, is to examine a little into the nature of morbid sensations, of which subjective symptoms of course exclusively consist, and to ascertain, if possible, their relative importance as compared with pathological changes, or objective symptoms, as they are often called.

I do not, however, mean to argue the question as to what constitutes the actual disease. Of this it seems to me there can be no doubt that Hahnemann's expression "the totality of the symptoms," or in other words, the entire changes of sensation, function and structure existing in any given instance, constitutes that individual case of disease. It seems to me that all the mistaken opinions which have been held and published on this subject have originated in confusing cases of disease with named diseases. If, for example, we wish to define *pneumonia as a disease* we must describe the symptoms, chiefly objective, which go to form the pathological condition indicated by that name; such a description should be limited to such symptoms as are essential, and without which the disease would no longer constitute pneumonia at all. But if we wish to describe a certain *case of pneumonia* our account must include every symptom of every kind which the patient can describe or the physician discover, otherwise our description is imperfect and we have failed to individualise the case. I am not here asserting whether this is necessary or not for the purposes of treatment; I am simply stating a fact, the importance of which will appear by-and-bye. We must bear in mind that the subdividing and classifying of diseases is altogether artificial and arbitrary, and that in practice we find our patients presenting a most provoking *melange* which bids defiance to all accurate classification. For the study of pathological anatomy all this defining and naming is most essential; without it we could not compare intelligibly the experiences of different medical men; but for clinical purposes the recognition of the *ensemble* and the tact with which each item is allocated to its true position of relative importance, is far more valuable. With the exception of the specific diseases, and even among them to a certain degree the course of each case of disease, depends vastly more on the condition of the patient than upon any peculiar properties of the cause itself. In fact, in all cases the majority, and in many the totality of the symptoms belong to the class so happily named contingent by Dr. Drysdale. It is evident therefore that, however few symptoms may be required to enable us to give a name to our patient's disease, we must utilise them all if we would attain unerring accuracy in individualising the case before us. We are told, however, that practically we need only take cognizance of the more important symptoms, and that by so doing we shall ascertain the root or foundation of the whole morbid structure, and by removing it we shall cure the entire malady. Let us look at this assertion a little more attentively, and inquire if it is as true as the confident manner in which it is brought forward would lead us to suppose. I have long entertained doubts upon this subject in consequence of the unsatisfactory results obtained by much of the allopathic treatment founded upon this principle. If we inquire carefully into the results obtained by specialists, we shall find that they cure the local manifestations of disease much more frequently than they cure the patient. Nothing is more common than for patients to seek our advice for numerous subjective symptoms of more or less intensity, and abundantly sufficient to render them true invalids, who yet tell us that Dr. So-and-so traced all these sufferings to a certain pathological condition which he had completely cured, but unfortunately the pains and discomforts continued as bad as ever. Now, there are three ways in which this is usually explained, each of which will be occasionally correct. 1. The specialist may have been wrong in his conclusion, and by an error of judgment he may have estimated the condition of his favourite organ too highly. He thus only removed a branch and left the trunk and root untouched. 2. Although the local pathological condition may have really been the source of all the mischief, yet the means used may have only effected a transfer of the morbid process to some other organ, and hence the symptoms of irritation continue, though the organ primarily at fault has been cured. 3. The disease may have many apparent roots—this usually happens indeed if patients wander from one specialist to another—and hence each and all these must be removed before a cure can be effected. None of the explanations, however, are entirely satisfactory, and we are thus driven to the conclusion that many diseases, indeed most chronic ailments are *general,* and no longer merely branches of one common root, and that all the phenomena, whether objective or subjective, must be considered as essential parts of the morbid derangement, and consequently the neglect of any of these may entirely prevent the accomplishment of a cure.

Taking for granted then that all the symptoms, of every kind, which manifest themselves in any given case, must be considered as forming the diseased condition of that patient, does it necessarily follow that all these phenomena are interdependent, and thus constitute a whole in the organic sense of the term ? I think not ; and it seems to me that our notions of disease will become much clearer when we have fairly got rid of this notion. Physiology has been teaching us of late that all cells have an independent life* in the same way that all members of a community have an independent life, and although for the purposes of the entire organism they are most closely knit together, yet that each individual action depends on the intrinsic life of each cell. Just as in the body politic we are linked together and perform common functions, and yet each one of us is active only in virtue of our individual life: so in the animal body each cell receives pabulum and stimuli from the entire organism, and yet what it will do with it depends on the individual life of the cell.

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* See quotations from Milne-Edwards, *Report on the Progress of Zoological Science in France* in *Medical Times and Gazette,* May 22, 1869.

It is a mistake to suppose that cells can only be influenced through the nerves. Vast as are powers of the nervous system, they are nevertheless limited to acts of association and centralisation. Without a nervous system an animal could not perform concrete functions, if such a term may be used, but the life of the individual cell is only indirectly influenced by nerves and its especial functions depend solely on its own integrity. The nervous system may be perfectly healthy, the flow of blood through all parts of the body may be most accurately regulated, but wherever the vitality of a cell is impaired there will be a failure of some function, and hence disease will result. Thus, a cell may be morbidly impressed, and the very pabulum which its neighbour works up into healthy tissue may by the diseased cell produce only pus or ichor. Two nervous extremities fed by the same blood may in consequence of the condition of their individual cells, initiate impressions which, when conveyed to the sensorium, give rise respectively to comfort and to agony. The same food which tones a healthy muscle to contract normally and painlessly, may enable a myalgic muscle to retain its cramped and intensely sensitive condition.

Again, a cell may yield to some external morbific influence acting directly upon it, and thus have its functions modified quite irrespective of either the nerves or blood-vessels of the part. It is no doubt true that all the parts of the entire organism are so closely interlinked by the nervous system that what may originate locally will soon cause a more or less general disturbance. Nevertheless, this does not alter the fact that each cell is capable of responding independently to those external stimuli to which it is related. This in fact constitutes the very foundation of our system of treatment by specific medicines.

The practical inference from this line of reasoning is that the phenomena of most diseases may be compared to a crowd of malcontents in a city rather than to an individual offender, and hence may be treated either individually or collectively as may be seen most attainable. I am quite aware that many objections will be made to this view, and hence I will adduce a few proofs of the fact of this composite nature of disease.

Were diseases simple and absolutely one, their phenomena would be so similar that the name of the disease being known the totality of its symptoms could be predicted. We know, however, that this is altogether impossible, nay, that many diseased conditions vary so extremely that one cannot determine which symptoms are pathognomonic, and which are idiosyncratic.

Were each diseased condition a unity, the destruction of its most important parts would necessarily cure the patient; but we have already seen that this is not the case.

Were all the symptoms in a patient dependent upon one cause, it would be impossible to remove a part without curing the whole, and yet we know that palliation is often attainable. Nay more, symptoms distinctly traceable to an incurable organic disease may be relieved from time to time and even occasionally cured, while the disease progresses unchanged. The pain of a carious tooth, for instance, is often cured though the caries progresses. In fact, subjective symptoms may so often be cured independently of the removal of their objective cause that it becomes an open question whether there exists any necessary connection between the two sets of phenomena. Let us examine this a little.

Dr. Inman, in his work on *Myalgia,* at p. 88, quotes Sir Thomas Watson's assertion that "inflammation of serous membranes is characterised by sharp and severe pain," and then proceeds to show the fallacy of this assertion, by referring to the frequency with which pleurisy occurs without any pain at all, and he concludes that serous inflammation is not necessarily attended with pain; nay, more, that when pain does exist it is situated not in the serous membranes but in the muscles in the vicinity of the inflamed part, or, in other words, pain is not an essential part of the pathological process, but a complication, a concomitant, a something added which may or may not be present. Again, we all know how frequently hysteria imitates peritonitis; here therefore we have the converse of Dr. Inman's cases of pleurisy, viz., the pain *without* the inflammation. Even severe organic disease may be painless; thus I have myself seen cancer of the uterus, cancer of the mamma, cancer of the stomach without pain, and quite recently an enormous encephaloid tumour in the abdomen, where no pain occurred until a very short time before death, and yet how often do we meet with cases of this disease when the patient's life is one of unbroken agony. Here also the converse holds true, since we have all seen cases where irritable mamma and irritable uterus have worn the patients down with their intense pain, and yet no organic change is detectable in the organs affected. I need not, however, multiply examples, as every man's experience will supply them plentifully. If then the interdependence between objective and subjective symptoms so slight that they can as readily exist separately as conjoined, upon what grounds can we neglect either the one or the other in selecting our remedies, unless we admit the practicability of splitting up the phenomena of disease and attacking it piecemeal? I am quite aware that this plan is acted upon by some rigid symptomatologists, and is defended on the ground of its success, and I am equally aware that others have laughed at this idea as utterly unscientific, who yet themselves are in the constant habit of doing the same thing in another way, by uniformly exalting objective above subjective symptoms, and regulating the treatment almost entirely in subservience to the former. Whatever they can see or find out for themselves is treated as of far greater importance than what the patient can tell them, and they constantly express themselves somewhat in this fashion: "Here is something we can see and feel, and hence there is no doubt about it, but as for all the patients' aches and pains they may be all fancy, for what we know to the contrary." These constitute the pathological school; they set great store on the results of post-mortems in cases of poisoning, and are never so satisfied with their prescriptions as when they can select a drug which has produced the same pathological changes as those they detect in their patients.

I do not hesitate to confess that my sympathies draw me towards this school; nay, were I compelled to choose definitely between objective and subjective indications, I would prefer the former. Nevertheless, I am convinced that we have not all the truth on our side, and we shall do well to examine carefully the grounds of our preference. At the onset we are met by the doubt whether after all the distinction between objective and subjective is not one of degree rather than of kind. Microscopic research has already shown the existence of organic changes in so many supposed functional alterations that we may expect the time to come when one can see a difference between a part that is painful and one that is healthy. In the meantime, however, we have the broad distinction between changes appreciable to the senses of others, and changes known only to the consciousness of the sufferer. Let us inquire then on what grounds we consider the former to be so much more important than the latter. If we examine the point carefully we shall find that no single characteristic can be named upon which this superior importance can be fairly based. Pathological changes cannot be called more difficult of cure than subjective symptoms, since they include every form and degree of congestion, inflammation, ulceration, morbid deposition, whether harmless or malignant, and hence numerically the vast majority are removable or cease of their own accord. Precisely the same and no more can be said of morbid sensations, not a few of which are very hard to cure, and some of which baffle our best endeavours. Subjective symptoms cannot, as a class, be called less dangerous, since no organic disease could prove more rapidly fatal than nervous shock, which often leaves no visible trace of its action. The question of danger is one entirely of degree, and applies equally to both kinds of symptoms. Nay, on the whole, pain is much more exhausting than many forms of altered structure. Twenty-four hours of neuralgia will exhaust a person far more than twenty-four hours of simple fever, although in the former case there may be no visible change in any part of the body, and all the functions may be properly performed, while the fever may have checked some and excited other secretions, and the blood-vessels all over the body may be largely dilated. A cutaneous disease may exist during a long lifetime, and the patients experience nothing beyond a slight inconvenience, while a corroding sorrow may wear out and exhaust a patient long before any organ exhibits structural change. In fatal diseases it not unfrequently happens that the subjective symptoms have more to do with the result than the objective changes; for example, Dr. Stephenson in an article on the *Diseases of Children* in the *Lancet* for May 16th, remarks that death is "less frequently the result of material disorders than of the blow given to a weak organization by a too considerable dynamic reaction." Seeing that it is by subjective symptoms alone that the patient has cognizance of internal disease, and that they constitute, as a rule, the chief annoyance in all diseases of every kind, I need hardly draw attention to the fact that they assume an importance to the sufferer far beyond that awarded them by the majority of medical men. How many of our patients come to us solely for the purpose of getting rid of their pains, nay, concerning how many can we find any other than subjective symptoms to lay hold of? Again, in the vast majority of cases subjective symptoms precede the objective changes, at any rate in the consciousness of the patient, who generally feels something amiss before any visible change takes place. Consequently pathological changes may be looked upon as secondary, and hence there is at least apparent ground for the argument used by some rigid symptomatologists who assert that organic changes are always the product of antecedent morbid sensations, and who argue from thence that the remedy which covers these sensations must be related to the root of the disease, and hence will remove the pathological condition, even although no symptoms analogous to the latter are to be found in the provings.

I would only remind the holders of these views that the proof of their correctness is as yet far too slight to decide the question. Of course I do not deny that many subjective symptoms are distinctly traceable to the objective changes which have preceded them, but this is not the point at issue. The real question is which are the most important, viz., the changes which the physician can detect, or the pains which the patient experiences? It seems to me clear that the ratio of importance does not lie parallel to this subdivision at all, but crosses and recrosses it in all directions. Hence every symptom subjective and objective must be judged upon its own merits; and while many physical changes will be correctly estimated as far more serious than the pains by which they are accompanied, in not a few instances the pains themselves are far more important objects of treatment than the visible changes with which they are associated.

We now come to the more practical part. I have recalled the well-known fact that organic changes may occur without pain, and pain without organic change. I have endeavoured to prove that although all the symptoms in a given patient constitute this diseased condition, yet the symptoms possess a sort of individual independent existence to an extent sufficient to enable us to treat them separately. I have also brought forward arguments against the prevalent opinion that objective changes are and must be more important than subjective sensations. How, then, should this influence our practice? I need hardly remark that whenever we can select a medicine which reflects in its proving the totality of the symptoms of our case, this will invariably prove the most satisfactory remedy to use; but how seldom can this be accomplished? The very existence of the pathological school in the one direction, and the "key-note" system in the other, tends to prove how often we are compelled to rely clinically upon something short of this *beau ideal.* If, therefore, we are driven to choose between the two, what shall determine our choice? It seems to me that the great mistake which has been made in this respect has been the endeavour to render the rule of preference absolute. I believe that in the present state of our knowledge we must sometimes follow the subjective symptoms and sometimes the objective conditions, and that all who strive to do the one or the other exclusively, fail to effect the greatest number of cures. I have recently had an opportunity of following the progress of two severe cases of rheumatic ophthalmia treated by two of our leading representatives of these opposite schools. In the one case the pathological condition wholly and solely regulated the selection of the drugs, while in the other the subjective sensations were invariably utilised for choosing the remedy. In neither case did I myself prescribe, but I watched the progress of both with great interest. The patient treated pathologically complained bitterly of his severe pains and sleepless nights, indeed so great were his sufferings that once or twice an auxiliary sedative was permitted. The progress, however, of the case was objectively satisfactory, and the patient made a complete recovery. This case I had not the opportunity of *seeing* during the illness, but the gentleman's wife wrote to me again and again, and I had some difficulty in preventing them changing their attendant, as they were so disheartened by the continued severe sufferings of the patient; nevertheless, as I remarked, the recovery was perfect, and the attack lasted an ordinary time. The second case I watched from day to day, and what impressed me so strongly was that *each subjective symptom as it arose was controlled*, often with marvellous rapidity, *by the remedy symptomatically selected*, and yet *the pathological condition was totally uninfluenced.* As far as the appearance of the eye went, no medicine affected it in the least; the disease ran its whole course precisely as if left to itself, and *the eye was materially damaged,* while the duration of the case was decidedly protracted. Still, from beginning to end, the patient obtained encouraging relief from his sufferings to such an extent, that had the disease been internal, any practitioner would have felt thoroughly satisfied with the apparent efficacy of his drugs. Of course one must not build too much upon single cases, nevertheless I am satisfied that the comparison of such a pair of cases as these must lead to some useful results. It seems to me that if some possible union of the two methods of treatment could have been devised, both patients would have benefited materially. We ought certainly, whenever possible, to relieve our patients' sufferings, while, at the same time, we ought not to neglect the pathological condition. In so important an organ as the eye, there can be no doubt that it is better to suffer pain and retain the eye uninjured, than to purchase relief at the cost of defective vision. The question, however, is—Cannot both these indications be met? and might we not control equally the subjective symptoms and the objective changes?

How this is to be accomplished I confess I do not at present see, since the medicines indicated by the subjective symptoms so often differ from those which are directly related to the pathological state. For example, *Aconite* and various preparations of *Mercurius* formed the basis of the treatment in the first case, while *Hepar s.*, *Ars.*, *Phos.*, *Verat.*, *Zinc*, *Lach.*, *Croton*, *Mangan.*, *Gummi Gutti*, *Nux vom.*, &c., took part in the treatment of the second, and each seemed to answer its purpose as far as relief of pain was concerned. I was much struck with the unusual frequency with which the pains changed in character and condition during the progress of this case, which affords grounds for the suspicion that the constant symptom-treatment transferred the morbid irritation from one nerve to another. Just as, when a tank overflows, the stopping of one stream will constantly originate a fresh one, so long as the fountain continues to pour forth its waters, so all these pains, though sufficiently independent to be capable of separate treatment, may be fairly considered as intimately associated with the pathological changes in the eye, and hence as long as that morbid process continued unchecked, the removal of one set of symptoms was only the signal for the appearance of some other sympathetic suffering. On the whole, perhaps, all we can at present learn is, that when either set of symptoms markedly exceeds the other in importance,—whether from the severity of the suffering, or the gravity of the pathological changes,—that aspect of the case may become the subject of successful treatment, even by a remedy which only covers that part of the disease. We may also be encouraged to hope that the subjective sufferings connected with organic disease may yield to treatment, although the organic disease itself remains untouched.

Many more speculations might be advanced in connexion with this method of treating disease piecemeal, but I have said enough to direct attention to the subject, and I trust that others will follow it up.

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# THE TRUE PLACE OF SPECIFICS IN PHARMACODYNAMICS.

### By Dr. DRYSDALE.

(*Continued from page* 308.)

THERE still remain some alterations of the blood in disease, the direct counteraction of which is supposed to account for the therapeutically specific powers of medicines. Allusion is here made to those alterations of proportion of the natural constituents which occur in certain diseases. Examples of this class are seen in the excess of fibrinogen which characterises inflammation and inflammatory fever, the excess of uric acid which occurs in gout, the excess of an unknown principle, supposed to be of an acid nature, in rheumatism, and the excess of sugar in diabetes. Now, it is obviously impossible to discuss at length these large and important subjects without such an interruption as would completely obscure the course of my argument; I will therefore indicate summarily the position I take with respect to these diseases. It is simply that all these changes are merely the products of the perverted vital actions in the solids which constitute the proximate causes of these diseases, and therefore fall under the ordinary rules for specific treatment. It is true that certain of these products mingling with and circulating in the blood may give rise to subsidiary morbid changes, but in that case they would merely form a link in the chain of exciting causes, and the question would be, whether they should be attacked directly by neutralisants and eliminants, or whether we should continue to treat dynamically the original proximate cause of the whole disease, which is their source. The answer can only be given separately for each disease. I presume no one now-a-days will talk about the excess of fibrinogen in the blood being the cause of inflammatory fever, and still propose to remove it by bleeding and eliminants; on the contrary, it is now admitted that the dynamic means necessary for the cure of the inflammation will be sufficient to restore the blood to its natural composition. A similar remark may be made in reference to the excess of sugar in the diabetic blood, but, with respect to gout and rheumatism, it is still very commonly held that the characteristic morbid products in the blood ought to be the objects of direct treatment. To this I have merely to say that no demonstration has hitherto been given as to which of the morbid phenomena are really due to the presence of this morbid product, or whether the whole of them do not belong to the original morbid process which is the source of that product. My opinion is that ultimately, as in the case of inflammatory fever, the specific treatment of the original morbid process will be found to be the sole rational indication. Nevertheless, it is not certain that some of the symptoms of acute rheumatism may not depend upon the presence of the morbid product in the blood, and although to confine our whole treatment to that morbid product is in the highest degree irrational, the question has been raised by one of the homœopathic school, my late friend Dr. Russell, whether it might not be well to combine neutralisants with the specific treatment. Practical experience alone can determine whether such a combination is possible without interfering with the far more valuable specific part of the treatment. Personally I have no experience with this combined treatment, but would refer to the able paper by Dr. Vaughan Hughes in the last number of this Journal, which touches on this subject. There is one auxiliary, however, which has in some cases afforded such marked relief in rheumatic fever that it has been called a specific, viz., lemon juice. Further experience has disproved its possession of any such positive power, and probably of any dynamic power at all over this disease, and it is therefore difficult to explain the remarkable palliation which it sometimes affords. After reflecting on the subject I have come to the conclusion that it acts here as a special kind of food, and is useful in a similar way to the change of diet which is found so beneficial in diabetes. I generally order it in rheumatic fever, in the proportion of two to four lemons a day, and do not find that it interferes with the specific treatment, and am, on the whole, satisfied with the general results when compared with the published statistics of the treatment of that disease. With respect to gout I have already given my opinion, that the specific treatment of the proximate cause is the only rational one. In this disease neutralisants and eliminants have still more notably failed to do good, therefore any benefit which may have resulted from *Lithia* and *Benzoic acid* must really have depended upon their dynamic action. The proof is more strikingly wanting that the morbid products are the cause of the true dynamic symptoms of gout. How does it happen that the blood of leukæmic * patients contains a remarkable excess of uric acid, while such persons assuredly do not show any symptoms of gout ?†

The same principles will apply to the remaining changes of the blood in disease. Of these, for example, embolism, although the causes that led to the formation of the clot may be within reach of dynamic remedies, yet when once formed it is beyond the direct influence of these measures. Likewise in pyæmia and septicæmia, antiseptics, if they could be brought to act within the blood, would not belong to the province of dynamic specific operation. The same may be said of *all* antiseptic and antiparasitic agents. We must likewise exclude from the domain of specifics all remedies which have the power of destroying morbid tissues or new formations by their poisonous action on them through the system, that is to say, if there be any such remedies, for I have not yet seen any satisfactory proof of their existence; and I am not convinced by Dr. Madden's interesting article that *Hydriodate of Potash* cures syphilitic periostitis in this manner, nor am I satisfied with Dr. Billing's theory, that *Iodine* causes the absorption of morbid growths by inducing a long-continued constriction of the capillaries through its primary action, and thus starving them to death.

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* Kühne, *Physiologische Chemie*, 1868, p. 249.

† Of course the secondary effects of the deposited urates merely bear the same relation to gout that stone in the bladder does to lithiasis.

Let us now grasp the separate threads of the argument that has been pursued in the papers contained in the present volume of this Journal, and show the place which specifics must occupy in pharmacodynamics, by a compendious enumeration of all medicinal appliances, in such arrangement as will show at once the boundary line between therapeutic specifics and the other resources of the medical art. In the first category we may place all those agents that fulfil a rational indication by acting directly, but in other ways than as vital stimuli to the organism, viz.: all mechanical aids comprised in surgical treatment; all that refers to diet and regimen, not merely hygiene, but the special adaptations of diet and regimen to particular diseases which mainly owe their efficacy to giving physiological rest to the weak part, such as the purely albuminous diet in duodenal disease, and the non-amylaceous diet in certain forms of diabetes, &c.; the artificial supply of the natural principles of digestion, pepsine, pancreatine, bile, &c.; medicinal food, such as lemon-juice, cod-liver oil, and the inorganic constituents when really required as pabulum; demulcents and diluents; anthelmintics, and all other antiparasitics, whether used externally or internally, also the antiseptics which are now known to belong to the same class, viz.: the internal use of *Carbolic Acid, Hyposulphites,* and *Quinine* against fermentive processes in the *primæ viæ,* also externally including the various resources of antiseptic surgery; also the removing of exciting causes of external or internal origin by chemical neutralisation, or in any other way; absorbents and detergents, including charcoal, both internally and externally.

In all these instances it is obvious there can be no suggestion of specificity, and remedial measures of this class are common to all schools; the action of these being outside the homœopathic law, none of its technical rules, such as that relating to the dose, apply to them, and when required they are either self-sufficient or auxiliary to homœopathic specific treatment, being compatible with it.

In the second category are to be placed all those agents which act on the living organism dynamically or vitally, viz.: evacuants, stimulants general and special, sedatives, narcotics, astringents, tonics, epispastics and the like, besides those which produce the infinite variety of disturbances of the system, both general and local, which cannot be classified resembling, in fact, the natural diseases, viz.: poisonings, and the copious array of symptoms, chiefly contingent, which are elicited by intentional provings of medicines on the healthy body.

In all these instances the action may certainly be said to be specific, inasmuch as it depends on the presence of a special property of the drug acting as a specific irritant to various parts of the organism, as has been fully set forth at p. 86; in other words, it is merely a physiological specificity, and expresses no peculiar relationship between those effects and any particular disease. Therefore, when the cure of a disease can be truly referred to any of these physiological actions, that is justly held to be an adequate explanation, and such a cure is removed from the class of specific cures. How far such attempts at explanation have been successful we have examined in the foregoing pages, and after going through in detail every known mode of physiological action, it has been concluded that none of them are adequate to explain the curative powers of certain therapeutic specifics, whose reality is placed beyond question by universal experience. This is acknowledged by writers on materia medica, who nevertheless continue to refer them to still unknown physiological actions which it is hoped will ere long be discovered. But as in the progress of discovery many new actions have been found, and each in its turn has failed to supply the necessary explanation, whilst, at the same time, the number of specifics is steadily increasing, are we not justified in concluding that it must be looked for in quite a different direction, and that in reality the explanation of therapeutic specificity will be found in some relationship between it and the already known physiological specific actions, which has been overlooked in the search? But, again, it has been shown that specific cures take place without the production in the patient of any one of these physiological effects; we are therefore driven back to the conclusion that specifics cure without exerting any physiological action at all. This we have seen was strenuously resisted by Pereira and most theorists, while others, such as Dr. Young, thought it best to admit the difficulty by establishing a class called *insensible agents,* of which specifics are the only representatives; and the same view of the question is virtually acquiesced in by nearly all systematic writers, when they remark the great disproportion between the curative powers of specifics and their action on the healthy body. For example, in speaking of *Cinchona,* John Murray says:

> "Its tonic power is inferred principally from obviating states of debility, and it is one of those medicines the efficacy of which in removing disease is greater than could be expected *a priori* from its effects on the system in a healthy state."—*Mat. Med.* p. 274, 1828.

This recognises, though it does not wholly express, what is noticed by all theorists, viz., the extreme disproportion between the amount of physiological action displayed in specific cures, and that in all other medicinal cures. For example, with respect to blistering, purgation, stimulation, &c., the therapeutic effect is expected to be in direct proportion to the degree in which these processes are produced in the patient; while in the case of specifics no corresponding actions are effected nor, indeed, any at all, and, therefore, the definition "insensible agents" is readily accepted.

In this apparently paradoxical state medicine remained until Hahnemann discovered the law of specifics and showed that the physiologically specific action, which is possessed by every dynamic agent, contained within itself the curative specific power, provided that it is used only directly and within certain limits. Prior to his discovery the seekers after this truth might be aptly compared to the pursuers of the rainbow in search of the fabled pot of gold that was to be found at its extremity—a point which they apparently never reach, though, in fact, they may have arrived in the midst of the phenomenon, and for that very reason see it not. Thus, then, the specific curative action is simply the physiologically specific action itself, so applied as that no cognizable sign of its presence shall be manifested during the process of cure, or, as before said, so employed as to be entirely absorbed into the already existing similar diseased state, just as two equal and similar rays of light are known to extinguish each other and produce darkness. For convenience I have preferred the definition of a specific hitherto always used, viz., that it is a remedy which "cures with the absorption of its whole physiological into its therapeutic action," because this implies no theory of the nature of the process of cure, but merely brings into prominence the essential condition that there should be no surplus of physiological action. Of course it is not meant that the whole field of the action of any medicine is brought into play and extinguished in each case of cure, but only the part that bears directly on the disease. It is likewise presumed to be in quality intrinsically adequate to meet the disease.

If in any case a primary physiological action of the medicine produces or contributes to the result, that is no longer a specific cure. But in a true specific cure, if, as is frequently the case, any physiological actions are developed incidentally, they are of course superfluous. This definition does not add anything to what is implied by Hahnemann, in the homœopathic theory of specifics, but it enables us to place in a stronger light the objects to be sought in proving medicines in the healthy body, and the application of the knowledge so gained for the cure of disease. It exhibits strongly the line of demarcation between the homœopathic specific mode of cure and all others, inasmuch as the former stands upon one side and all the rest upon the other side.

In these no curative effect is possible except in proportion to the amount of physiological action produced in the patient, while in that, on the other hand, the smallest jot (of physiological action) is superfluous. We thus perceive why it is impossible by the homœopathic method to treat mere symptoms, and thereby palliate. For it is plain, as before said, that the homœopathic remedy can only act on the proximate cause, and as in so doing its own action, which is the pathological simile of that, is entirely absorbed and extinguished, there is no surplus physiological action from which can be produced any of those opposite or indirect actions on which all palliation must depend. That all palliation requires the full physiological action is too plain to require detailed illustration; it will be sufficient to say, that for a purgative to relieve constipation it must purge, a narcotic or an anæsthetic to relieve pain must narcotise or numb, a stimulant must stimulate, a counter-irritant must irritate. Nay, even were it practically true that these means were fulfilling the rational indication, and, instead of palliating, were really curing the disease, still they would be doing so in virtue of producing their full physiological effect. Further, when the admittedly specific medicines perform their cures, though the physiological action whereby they do so is confessedly unknown, yet it is never doubted that when discovered it will be found they so act by virtue of some complete physiological action. So that amongst all the fluctuations of medical belief one thing has remained constant, viz., the principle that medicines could only cure by inducing in the diseased body the effects by which their operation is recognised in the healthy body. It can hardly be said that this principle was even questioned before the time of Hahnemann, and, therefore, when he announced the homœopathic law of specifics we cannot wonder at the incredulity with which it was received, for it virtually ran counter to the above principle, and implied that, so far from the cure being performed by inducing the full physiological action, the very reverse was the case, if such an expression may be allowed. Even now, after the homœopathic school has existed for two generations, this principle is so dominant in the minds of medical theorists that they will not even look into the evidence on behalf of another principle so totally opposed to it. This after all is not to be so greatly wondered at when we recollect the extreme difficulty with which the human mind can shake off any settled opinion or belief, as witness the lapse of time before even the learned accepted the Copernican theory of the earth's motion, which any schoolboy is now able to demonstrate.

As regards the action of medicines, even in the most recent times, when the example of the homœopathic school has, for very shame, driven the allopathic sect to institute provings on the healthy, the results threaten to be nugatory to them as regards specific cure by their unwillingness to look at them in any other light than the one they have been accustomed to. For example, Dr. Harley, in his otherwise praiseworthy proving of *Conium*, finding that half drachm to ʒij doses of *Succus conii* produce the physiological specific effect of narcotising the motor nerves, comes at once to the conclusion that it can be of no use therapeutically unless given so as to produce this physiological action, and therefore recommends it in these doses for chorea, cramp, tetanus, epilepsy, pertussis, &c. Beyond this absolute, obvious action he ignores all the contingent symptoms tabulated by Hahnemann, and attributes all the curative effects which can be plausibly connected with it to that one property, simply denying or evading the mention of all other empirically known specific curative actions of the drug. For example, he says:

> "The way it relieves pain in cancer of stomach and bowels is from muscular relaxation in the diseased parts rather than any direct influence upon the sensory nerves, the *Conium* being to the muscular parts involved in the cancerous disease what the knife is to the sphincter muscle of the bowel when in a condition of irritable ulceration."

If he were aware of the marvellous power of even fractions of a drop to relieve painful and other diseased states of the vegetative sphere, he would see at once the utter futility of this explanation; besides, he must have the same difficulty in explaining by what power we cure with *Conium* those very states which he considers to be its sole physiological action. In this matter we will do him the credit of supposing that his mind is so warped by preconceived ideas that he cannot look in any other direction for the true curative specific action of this substance. Another illustration is afforded by Dr. Fraser's researches on the Calabar bean. In a paper in the first volume of the *Practitioner* he gives it as his opinion that its physiological action on man is sufficiently known to guide us in its use in two diseases, viz., tetanus and chorea. Tetanus, he says, is a disease characterised by an *exaggeration of the reflex function* of the spinal medulla, the medulla oblongata, and certain lobes of the brain, often existing without any discoverable central lesion. *Physostigma* acts on the healthy body by powerfully and directly diminishing the reflex activity of the cord; it also diminishes or destroys the conducting power of motor nerves; therefore it is "peculiarly suited for counteracting such convulsive movements as result from an exaggeration of the reflex function of the spinal cord," p. 79. Although a certain amount of palliation may be obtained from this recommendation, I think we may venture to predict that such merely symptomatic treatment by the primary action of the medicine will fail here as it does elsewhere. It is undoubtedly true that increased reflex action is a prominent phenomenon in all cases of tetanus, but so it is in many other diseases of the nervous system, such as hydrophobia, hysteria, chorea, and others. It can, therefore, scarcely be called the proximate cause of tetanus, but forms only one link in the chain of morbid influences that go to make up the disease. No doubt, by counteracting that through the primary action of a paralyser of the centres of reflex action, we can control the functional activity of these parts and thus relieve the spasms for a time. But is this any other thing than mere symptomatic treatment, such as relieving diarrhœa by astringents, constipation by purgatives, sleeplessness by opiates, &c., when these states are not idiopathic, but are merely symptoms of some more comprehensive disease? or as a closer analogy, the relief by opiates of pain and reflex movements (spasms and tenesmus) when attendant on idiopathic diarrhœa or dysentery? If such means can rationally be expected to do any good it must be on the principle of affording physiological rest to the system, and thus allowing natural recovery to take place in the real seat of the disease. This is, in fact, confessed to be the chief aim of treatment in modern medicine, as was noticed in the quotation from Dr. Gull's address given in this Journal, vol. xxvi, p. 612. If this be the case the Calabar bean can have no pretensions to be directly curative of tetanus. For the same reason also we see that *Strychnia* cannot be expected to be necessarily curative in this disease, granting it the power of homœopathically curing exalted reflex action *per se*. But now, on the other hand, let us assume that Dr. Fraser is right, and tetanus is nothing more than idiopathic exaltation of the reflex activity of those very portions of the nervous system of whose reflex activity Calabar bean is a paralyser and *Strychnia* an excitant by their primary physiological action. Which of these two will be therapeutically specific? Is it the one which can only counteract the morbid state as long as the full development of its physiological action lasts, or that in which the primary action must be altogether insensible? Obviously this is nothing but the old question of *contraria contrariis*, and, though it is admitted that in the slighter degrees of a morbid state agents of a contrary tendency may still exert their power and counteract a disease as long as their primary effect is maintained, yet experience has shown that this effect is transitory and cannot be maintained without repeated and augmented doses; and, further, as a disease approaches the severer degrees these agents lose their power; and, finally, when most urgently required they fail to produce the desired effect, and a stage arrives in all serious disease when purgatives fail to purge, astringents fail to constringe, soporifics fail to bring sleep, stimulants fail to stimulate, and calmatives to calm exalted reflex action. Consequently this mode of employing the physiologically specific action of medicines can never be a truly curative one, even in the small number of diseases in which it is possible to apply it at all. Whether agents of the opposite class are the true specifics, of course involves the whole question of the truth of the homœopathic law as a matter of fact. These two examples of allopathic provings show us how little is to be expected from them in the discovery of specifics through the action of medicines on the healthy body, seeing that in them the old spirit still presides, and there is little deviation from the well-worn track of research into the merely absolute actions of medicines on the great organs and systems. There is, it is true, a little more precision in determining the seat of their action as regards the large divisions of the nervous system, but that is all. The principle of looking for curative results only through the full development of the physiological action of medicines, involves the fatal necessity of confining their attention exclusively to the absolute class, while the infinitely more varied and extensive class of contingent actions, which are also more important for specific cure as corresponding more nearly with real disease, is entirely neglected. Thus the *Materia Medica* revolves continually in a narrow and vicious circle; new discoveries merely bringing into fashion some new purgative or narcotic, which supersedes an old one just as good, if not better, than itself. The recent experiments with *Mercury* afford another illustration of our position. The curative effect of *Mercury* in certain diseases of the liver has been vouched for by the reiterated experience of medical men during many generations, and it has, at the same time, been as universally assumed to depend upon its primary action of increasing the flow of bile. How far this is true will be learnt by studying the under-mentioned report * on the action of *Mercury* on the biliary secretion of dogs.

As the first result of these we learn that *Mercury*, given to the extent of purgation, immediately and greatly diminishes the secretion of bile, but as the same happens from purgation produced in many other ways, and also by natural diarrhœa and dysentery, that is evidently nothing more than what we might expect from the drain of portal blood. It is, therefore, merely the effect of the evacuation, and not the specific action on the liver. The same takes place where the drug causes any serious degree of impairment of the general health. But after the subtraction of these causes of error it was still found that during the *seven days* of the experiments with mercurials, the *average* amount of bile, both solid and fluid, was *diminished* in most cases, and never increased. The reporter in his summary dwells chiefly on the fact that it is never increased, but the above is the conclusion I derive from perusing the details.* That they do not influence it is hardly borne out by the facts, for important fluctuations took place not fully accounted for otherwise; but whether the increase took place from the first effect and the subsequent diminution from the natural restoration of equilibrium, or *vice versâ*, is difficult to make out. In dog No. 4 no *Mercury* was given on three days out of the seven, and though still the average quantity of bile was less than in health for the whole period, yet it was noticed that the quantity secreted was much less on the days in which the drug was given. In as far, therefore, as experiments on dogs can suffice, these experiments demonstrate that the whole fabric of therapeutic speculations, which rest on the presumed primary physiological chologogue action of *Mercury*, must fall to the ground. They do not in any way invalidate the facts derived from empirical observation respecting the curative power on liver disease in which the secretion of bile is diminished. They tend merely to show that the action is homœopathic, or that it depends on the removal of some different morbid states which had hindered the natural secretion. This last is probably the case in general, and that it comparatively seldom does good by a mere power over the quantity of secretion, whether antipathically or homœopathically exercised. The reporter concludes with the following remark :

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* *Report of the Edinburgh Committee on the Action of Mercury, Podophyllin, and Taraxacum on the Biliary Secretion*, by J. H. Bennett, *British Medical Journal*, May 8th, 1869.

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* His words are—"The foregoing observations seem to us clearly to show that blue pill, calomel, and corrosive sublimate, when given to dogs in either small, gradually augmented, or in large doses, do not increase the biliary secretion; they do not even influence it so long as neither purgation nor impairment of health are produced, but they diminish it as soon as they produce either or both."

"We have been unable to discover any facts brought to light in this or any other age which prove that *Mercury* stimulates the biliary secretion. So far as we can make out, the notion that it does so originates in some vague statement made by Paracelsus, or the authors of his time, as to the good effects of *Mercury* in what he has called 'icteritia.' "But we repeat, not only do we not know how such a notion has arisen, but we are ignorant how to make direct observations on the subject in man. We have already stated that such observations are, in the present state of physiological chemistry, impossible." "We do not deny the possibility of *Mercury* being useful in some diseases of the liver. We simply say that the notion of its doing good by increasing the biliary secretion is untenable."—*British Medical Journal*, May 8th, 1869.

The *naivetè* of this remark is really amusing! Why, this is very much what has been said by Hahnemann and his followers during the last two generations, respecting nine tenths of the medicines in daily use! The whole report, also, does little more than confirm the conclusion already come to by Dr. Inman and Dr. Scott, and this result of experiment with *Mercury* forms the counterpart of what was noticed in our last chapter, respecting the dynamic action of *Iron* in anæmia.

In respect to podophyllin the conclusion is that it does not increase the secretion of bile either, but, on the contrary, that, even in doses which do not produce purgation, it diminishes the solid constituents of the bile, and it is the variations of these that are of paramount importance. Thus, in as far as podophyllin cures by directly restoring the amount of the biliary secretion it must do so homœopathically.

Even with respect to the medicines acknowledged as specifics in the ordinary practice, which were discovered by chance and are still used empirically, the same tendency has been shown in regard to each of them in turn to explain their action by some known physiological effect, generally evacuant. Thus, *Mercury* has been already alluded to as curing syphilis by salivary elimination; but after this theory was exploded, when gold was discovered to be also specific in the same disease, the same theories were again brought into play, and its curative action was attributed by Chrestien, Niel, and Legrand to the febrile state accompanied by copious diaphoresis and diuresis which it excites. Subsequently, however, it was found equally effective without any appreciable critical phenomena at all, and, consequently, the attempted explanation fell to the ground (T. and P., vol. i, p. 337). Attempts were long persisted in to explain the action of colchicum in the same way, and even as late as 1853 we find Dr. Fleming, in the review of "Headland" in the *Brit. and For. Med. Rev.*, vol. xii, p. 104, attributing its power over gout to the purging and elimination of *Uric acid*, and perhaps bile, in spite of the evidence afforded by many good practitioners that it acts best when no such effects take place. This has now come to be generally admitted, and even Bence Jones gives up the chemical and eliminant theories. It is needless to multiply illustrations, but it may be simply stated that the tendency to explain the power of such medicines in the above way is being gradually abandoned, and therapeutists are beginning to look more at their direct action on the seat of the disease. This is shown by the department of "special stimulants," which form a section in works on materia medica. The following are the introductory remarks of Neligan to this section:

> "In this division of medicinal agents I include those substances which by a *special* or peculiar action on individual organs, or on the system generally, produce remedial effects. Many of them give rise to some alteration which is not well understood in the nature or quality of vital action when they are called *alteratives;* while others possess a special influence in the treatment of certain diseases when they are denominated *specifics.* Many alteratives and specifics have been already described in other classes of medicines, but the articles contained in this chapter cannot, with a regard to accuracy in arrangement, be included in any of them; inasmuch as the nature of the primary influence which some of them exercise on the animal economy has not been satisfactorily ascertained; and others possess a peculiar influence over certain *organs* or *diseases* merely; as examples of the former, we may

refer to *Mercury*, *Iodine*, and *Gold*, of the latter to *Nux vomica*, *Cubebs*, and *Copaiba*."

This section is a large one, and consists mainly of medicines which have long been used by the homœopathic school for pretty much the same indications, though no acknowledgment of their true source is made by Neligan. In fact, no attentive observer can fail to perceive the change that is gradually taking place in medicine in the direction of trusting to the specific and direct effects of the medicine given alone.

As before said, the definition of a specific given by me adds nothing to the corollaries which flow from Hahnemann's definition, that a specific is a medicine which is homœopathic to the disease. For though, in his theory of cure, the medicine is supposed to overpower the disease by its stronger primary physiological action, yet, in practice, the conditions are so guarded by the extreme minuteness of the dose and the directions that it must excite no accessory symptoms of its own, nor aggravate the existing ones, that it comes virtually to the same thing as that no physiological action shall be manifested in the process.

From this follow all the technical peculiarities of the homœopathic method, such as the necessity of treating the proximate cause alone, and the impossibility of looking for palliation of mere symptoms or any other indirect effect, from homœopathically chosen medicines. Likewise the necessity of studying the disease and the medicine in their totality, down to the minutest symptoms, in order to arrive at a complete correspondence between the two, and thus ensure a pathological similarity and not a mere simulation of one by the other. Now, although the establishment of the homœopathic principle as an indicative law is quite sufficient for the existence of the whole homœopathic system, and, although Hahnemann himself set small store on his theoretical explanation of the principle, it nevertheless stands in need of some theory that shall bring it into harmony with the facts and what is true in the principles of general medicine. This has been generally felt and acknowledged if we may judge from the numerous attempts that have been made to supply the want within the homœopathic school. It would be superfluous to go through the list of theories that have been propounded, as that has been so ably and exhaustively done in the third and fourth lectures by Dr. Dudgeon. I will, therefore, confine myself to a few points which appear to have been insufficiently worked out. These are the application of Dr. Fletcher's principles to the explanation of the homœopathic theory, and the relations of the latter to the theories of revulsion and substitution; also the fact that the specifics known to and used by the allopaths suppress instead of aggravating the disease even when given in large doses, and thus I may carry out the original purpose of showing the difference between the allopathic and homœopathic idea of specifics.

As the theory of revulsion will be here put forward as the connecting link between the homœopathic theory of specifics and the other generally accepted principles of medicine, it will be well to quote the axiom of Hippocrates on which it is founded. The words of Hippocrates, according to Adams' translation for the Syd. Soc., p. 713, are—

> "Of two pains occurring together, not in the same part of the body, the stronger weakens the other."—*Aph.* ii, 46.

The essence of Hahnemann's theory may be traced to this maxim, in as far as it implies that cure is effected by a stronger influence overcoming a weaker one. What other bearing upon his theory it may have will be best displayed after considering John Hunter's* theory, which is as follows:

> "No two actions can take place in the same constitution, nor in the same part at one and the same time. . . . It naturally results from this principle that no two different fevers can exist in the same constitution, nor two local diseases in the same part at the same time."

Any exceptions to this, he says, are merely apparent and rest upon incorrect observation, and therefore such complex diseases as "pocky scurvy, pocky itch, rheumatic gout," &c.,

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* *Treatise on the Blood, Inflammation, &c.*, introduction, p. 4.

imply a union that cannot possibly exist. Also, he says, that though the patient may have several diseases at one time, such as scrofula, scurvy, and syphilis, yet

> "No two of them can exist in the same part of the body at the same time; but before one of them can occupy the place of another, that other must be first destroyed, or it may be superseded for a time, and may afterwards return."

Again, he says:

> "Does not the cure of some diseases depend upon the same principle as the suspension or cure of a gonorrhœa by a fever?"

Hahnemann approaches this subject in the same way, viz., by studying the relation of natural diseases to each other, but, having the advantage of greater erudition, was enabled to disprove some of the positions taken by Hunter.

In the *Organon* he has given a great number of instances where different diseases may coexist or even combine with each other, and later experience has confirmed his statement, although it has added little to those instances given by him. He was, therefore, obliged to seek for some more definite relation between diseases which might be the basis of a theory of cure, and was thus led to divide them into three categories, viz.—1. Those diseases that were very similar to each other; these, he says, "mutually destroy each other when they meet in the system." This we will for the present take for granted and allow as the basis of the homœopathic theory. 2. Those diseases which already existing prevent the accession of new and dissimilar ones, if the former be of equal intensity to, or greater than, the latter. A similar statement is made by Hunter, but both receive a doubtful and very qualified support from the facts, and besides it has little bearing on our subject. The third consists of those cases in which the accession of a new and more powerful disease of a different nature is followed by the suspension of the original disease. Hahnemann elevates this into a general pathological law, that

> "In all diseases that are dissimilar, the stronger one suspends the weaker."

It will be observed that this includes the whole meaning of the Hippocratic axiom above quoted, if we allow the term "dissimilar" to cover difference of place. To this the greatest exception has been taken by commentators, and with justice, for, in fact, the very examples adduced by Hahnemann in support of it do not bear out the statement that a disease must necessarily be stronger in order to suspend another. For instance, if an eruption of scald-head suspend epilepsy, who can say which was the stronger disease? Likewise Hunter, and even Hahnemann himself, give examples of measles suspending smallpox, which, if comparisons as to strength were allowable, one would take to be the stronger disease. On the other hand, examples are more common of smallpox suspending measles, and numerous other discrepancies of the same kind are observed. So that, in short, in diseases depending on self-reproducing miasms the laws relating to their power of mutual exclusion cannot as yet be laid down, but we must wait for further discoveries. Again, in common diseases, all the morbid affections, for instance, whose essence is in plethora, will naturally be relieved by hæmorrhages, diarrhœas, and all those morbid affections which involve evacuations, and thus deprive the system of one of the necessary conditions for the existence of plethoric disease. This cannot be described as a stronger disease overcoming a weaker dissimilar one. Against this position we might also adduce Rokitansky's observations on the exclusion of certain diseases by others, but further illustration is unnecessary, and we may conclude that Hahnemann has failed to establish any such law, but incidentally is compelled to admit the facts on which the principle of revulsion, derivation, or counter-irritation is founded. But he has lessened its importance by indiscriminately including it in a heap of heterogeneous measures under the general name of allopathic agents, whose evils he is denouncing in order to display the superiority of the homœopathic method. At p. 40 of the introduction to the *Organon,* he describes allopathic treatment as an attempt to imitate nature

"By applying stronger heterogeneous irritations to parts distant

> . . . . in order to turn the course of the evil, in some degree, towards this new position;"

which, however, he admits to be occasionally curative. Whatever be its comparative value the principle is here admitted, and it is not explained by any supposed law of the stronger suspending a weaker dissimilar disease. It is, therefore, an independent and substantive principle in therapeutics, though we shall presently see how nearly it is connected with the homœopathic law, and that in fact it is merely a partial application of a principle which becomes the homœopathic law when carried out to perfection.

In endeavouring to bring the homœopathic law within the pale of pre-existing medical beliefs, *i. e.* to explain it, the majority of speculative writers in the homœopathic school merely bring forward modified versions of Hahnemann's own theóry, or attempts at explanation drawn from physical science, but there is one who differs from all the rest in referring it to a process analogous to counter-irritation or derivation, viz., Dr. Gerstel, of Vienna.*

In the work mentioned below, which displays considerable learning and acute powers of observation and thought, he states that in the cure of every disease attention must be directed as far as possible to the proximate cause, and the cure can only take place in the seat of that. In default of any direct power of neutralising the disease by a contrary action, we must diminish the morbid process by diverting or turning into another direction the morbid vital activity through means of an artificial irritation of a sound part, and thus proportionally divert it from the diseased part. This (deducting any possible benefit from a merely evacuant action of any of these agents) is the well-known principle of counter-irritation, and experience has shown that one of the most important practical rules for employing it is to apply the counter-irritation as near as possible to the diseased part, as when it is used in peritonitis, pleurisy, ophthalmia, hip-joint disease, &c. Upon this Gerstel founds his analogy, for a homœopathic remedy fulfils this indication best of all, inasmuch as it takes the derivative into the very organ itself by virtue of its physiological specificity. But that it should derivate and not simply aggravate the disease, in short, that a field should exist for this process, he supposes that no organ or part can be so completely diseased in its anatomical totality but that it is still susceptible of other irritations, and it is through these that the diversion of the vital activity is produced. It is unnecessary to combat this hypothesis, as it depends on the common notion that derivation consists in the drawing away of something from the diseased part, and adds still further to the already numerous difficulties which burden that hypothesis. For if disease consists in diminished vital action, what good is to be got by drawing any away? These difficulties all disappear under the theory of Dr. Fletcher, which will be given presently. We shall also have to allude to some interesting examples of the correspondence between the views of Gerstel and those of Fletcher as to the cure belonging to the first stage only of medicinal action. But in the meantime we had better consider the substitutive theory of Trousseau, which has attained a certain notoriety. It is contained in the first volume of the *Traité de Therapeutique*, by Trousseau and Pidoux, p. 470, and as that work may not be accessible to all readers, I give here a short analysis of the chapter.

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* *Wissenschaftliche Begründung des Principes der Homöopathie.* Wien., 1843.

He commences by giving Hahnemann credit for a certain measure of truth in his principle of *sim. sim. cur.*, and observes that the fact must be admitted that local inflammations are often cured by the direct application of

> "Irritants which cause an analogous inflammation, a therapeutic inflammation, which substitutes itself in the place of the primitive irritation" (p. 470).

Then he says this principle is much less true for general diseases and general remedies, and on the whole Hahnemann and his disciples have exaggerated its importance and pushed it far beyond the limits within which it is useful and applicable. He then enters into an argument against the theories of Brown and Broussais, who placed disease chiefly in quantitative disturbance, and proves that the alteration of quality or character of the morbid process is of far greater importance than mere degree, even when the exciting causes act on the same organs or parts, and concludes by what he terms the great pathological principle that

> "A special modification responds to the action of each modificator." (p. 476.)

Now, all irritant modificators (exciting causes of inflammatory diseases) determine an irritation the intensity, course, and duration of which is proper to themselves. Thus the course, and nature, and duration of an inflammatory disease being known,

> "If it were possible to apply to the inflamed tissue a modificator, itself irritant, which would change the existing mode of irritation, and thus abridge the duration of the disease, should we not, by this substitution, render a great service therapeutically? Now, is this what happens? Evidently it is. An inflammation occupies the conjunctiva; a collyrium of sublimate, nitrate of silver, calomel, or red precipitate, while certainly irritating for an instant the inflamed part, nevertheless cures the existing inflammation." (p. 476.)

In all this we have nothing more than a reproduction of what Hahnemann had been saying for half a century before him, more particularly the inculcation of the importance of qualitative specificity; and even the very name had been anticipated, as we see in this passage from § 34 of the *Organon:*

> "In order that the cure may be effected it is indispensable that the medicines be able to produce in the human body an artificial disease similar to that which is to be cured; for it is this resemblance alone joined to the greater degree of intensity of the artificial disease that gives to the latter the faculty of *substituting* itself in the place of the former, and thus obliterating it."

As far as the mere statement of the fact goes both agree, but when Trousseau goes on to attempt the explanation of the principle and lay down rules for its practical application, we shall perceive some notable discrepancies between them which will help to show the difference between the allopathic and homœopathic use of specifics. It is singular that they still agree in words, but it is Hahnemann who has departed in practice from the apparent literal meaning of the words, and therefore Trousseau is, as it were, parading in the cast-off clothes of his predecessor.

Trousseau goes on to say that the substituted disease must not be more serious than the original one, though it is difficult to lay down rules beforehand for the different cases. But in trying to substitute there are two rocks on which one is apt to split: either to stimulate too much or too little. It is safer to be a little below the mark in degree of strength, but, as to duration, care must be taken that that of the modificator be kept up sufficiently long without interruption.

> "If the substitutive agent has a duration of action for each dose if only from six to twelve or twenty-four hours, it may be used to substitute the phlegmasia for that lapse of time; but if the therapeutist hold his hand at once, the original symptoms reappear. In order that the substitution be employed efficaciously it is necessary to renew the substitutive action before the effect of the preceding topical application is entirely exhausted." (p. 479.)

The example given is in the treatment of dysentery by injections of *Nitrate of Silver*, the first of which relieves the pain and bloody discharge for a certain time, after which they would return; it is, therefore, advised to give another injection before the time expires, and renew them sufficiently often to keep the patient continually under the influence of the medicines. This we see is a complete contrast to the precept of Hahnemann with respect to the action of true and complete homœopathic remedies, and we shall find that it runs through all the directions for the allopathic use of partially homœopathic agents. But, in repeating the dose, Trousseau also acknowledges the Brunonian law of exhaustion of excitability, and hence the necessity of augmenting the dose. Further, the great danger of failure in the treatment is in stopping short, for if that is done before the disease is entirely subdued it will relapse and the whole treatment will have to be begun again from the beginning. (480.)

We here perceive that though homœopathicity of seat is recognised as necessary to substitution, yet the similarity is not seen to be of a more complete nature, and the primary action is required to be manifested and kept up in a certain degree of intensity. No explanation is even attempted as to how or why the new irritant should have any influence at all in substituting the old one. Towards the end of the article, however, he perceives the necessity of a more complete adaptation of specific character in stating that the internal or constitutional cause of the local disease should go for something in the choice of the modificator. And in fact we ought to prefer the *Nitrate of Mercury* to the lunar caustic in syphilitic phlegmasias, and the preparations of *Iodine* to the *Salts of Copper* in scrofulous dartres—

> "Because every organic molecule is in some sort a *microcosm* which represents the general state of the system." (p. 482.)

In respect to revulsion and counter-irritation, which he terms "Medication irritante transpositive," he accepts, like everybody else, the above celebrated axiom of Hippocrates, but confesses that he is wholly unable to understand the operation of them.

> "We avow frankly that vainly have we searched for the explanation of them." (489.)

Some of the facts connected with these processes and the practical rules for applying them stated by him have an important bearing on our subject. It is only certain diseases and certain stages of disease which are susceptible of being benefited by counter-irritants or revulsives: for example, pneumonia, hepatitis, pustular diseases, &c., when carried at a certain stage, cannot be altered in their course by such means; and the same may be said generally of all diseases in which a morbid product is effused into the parenchyma. On the other hand, in catarrhal affection of the mucous membranes, the throat, &c., where the morbid secretions are cast off, revulsives have often a remarkably good effect. These are cases, we perceive, in which simple constriction of the capillaries can at once remove most of the morbid symptoms. The same applies also to the fact that revulsion is most effectual at an early stage of the malady, while resolution is still a possible termination, as when a foot-bath or a sinapism cut short what was probably the early stage of a severe sore throat or pleurisy.

The fact that the degree of efficiency corresponds to the amount of primary action is shown by the alleged abortive treatment of pleurisy and pneumonia by large blisters covering the whole chest, still practised by Gendrin, but for which Trousseau does not vouch, though he does for the general principle that the extent and intensity of the revulsion shows here a direct proportion in some degree to the extent of the disease. Likewise he notices the difficulty of reconciling the facts of natural metastasis with the ordinary theories of revulsion, because it is after the disease has begun to get better that the new one commences; whereas if the new one were the cause of the decline of the old one, that should have begun only when the former was well developed. Besides, he says if the stronger irritation overcomes the weaker, the old disease should have prevented or revulsed the new one while yet in its beginning. Whereas the fact is that we see a number of new diseases attack persons already ill with serious affections, and run their course side by side. He then enumerates several that may coexist, just as Hahnemann has done in the *Organon,* a great deal more completely.

All this, coupled with the remark respecting substitutives at p. 491, that the new disease must not be more severe than the original one, shows that Trousseau gets himself into the same difficulty with Hahnemann by accepting the Hippocratic axiom as far as it asserts that the *stronger* disease cures the weaker.

He next notices the fact that revulsions have no influence on the qualitatively specific part of diseases; nor do the local manifestations of those diseases revulse each other.

Finally, the action of revulsives is for the most part rapid and immediate, and may be judged of in a few minutes in many instances. As for example, a foot-bath often relieves in an instant pain in the head and throat; a sinapism relieves some rheumatic pains in a few minutes; a large ammoniacal epispastic quickly dissipates the dyspnœa of bronchial catarrh, &c.

Now, in all these actions of this class I think we may plainly perceive the primary action of a stimulus constricting the capillary vessels, which phenomenon would account for all the benefit as long as it lasts.

In the foregoing we perceive that Trousseau does attempt to grapple with the subject in its relation to the homœopathic law, but the majority of authors on the materia medica show an almost ludicrous weakness on this topic. I may give here quotations from Paine and Pereira.

"Erysipelas and other cutaneous inflammations may be removed by the direct action of cantharides upon the part inflamed. The remedial agent in these cases varies the mode of inflammation, and thus introduces a modification in which the properties of life are brought into recuperative action" (Paine's *Institutes of Medicine* quoted by Marcy and Hunt, p. 88).

"Unguents and lotions are used in cutaneous diseases, ulcers, &c.; gargles in affections of the mouth and throat; collyria in ophthalmic diseases, and injections into the vagina and uterus in affections of the urino-genital organs. In all such cases we can explain the therapeutical effect in no other way than by assuming that the medicine sets up a new kind of action in the part affected, and that the new action subsides when the use of the medicine is suspended or desisted from" (Pereira, *Mat. Med.*).

It is evident the above paragraphs contain no explanation in any sense of the word, but are mere statements of certain facts which the authors are unwilling to refer to their true principle.

We shall now turn to the theory of Dr. Fletcher, to which we have frequently alluded, and which I think will be found to afford a full explanation of the facts and a reconciliation of the difficulties and discrepancies which have hitherto perplexed medical theorists. For those who have not the opportunity of consulting Fletcher's *Pathology*, I may state that there is a pretty full extract in Dudgeon's lectures, and I have also given an abstract of the fundamental principle in vol. xxvi, p. 445, of this Journal. In the first place Fletcher simply rejects the so-called *σφοδροτερος* axiom of Hippocrates, and says that such an assertion

> "That two morbid impressions could not subsist together in the same body, so that a secondary stronger one being promoted, the primary or weaker one necessarily ceased,"

however true it may be of sensibility, which has but one seat,

> "Is certainly gratuitous with regard to irritability, which has many seats." (*Path.* 481.)

In fact, according to his fundamental principles, no stronger impression is required for the cure of disease, because in almost all, if not in all, cases at the time we are called upon to treat it disease consists in diminished vital action, and therefore the object of all positive modes of cure is to *fill up a want*, and not to produce such operations as toning down, overpowering, or diverting increased vital activity. This view of disease is becoming at length generally accepted, though unless the Brunonian theory of indirect debility be received in the modified form presented by Fletcher, it is still impossible to understand the action of the exciting causes of disease and of specific remedies. By that theory, as before explained, all positive agents act primarily as stimuli, producing as their immediate effect an over-excitement—represented by the latent stage—followed by, sooner or later, a corresponding state of collapse or diminished excitement in *which the disease consists.* This is the cardinal point on which the whole of Dr. Fletcher's theory turns, and it is one peculiar to himself, and almost universally overlooked by other theorists. At least it is by him alone carried out consistently to its full extent as regards the operation of medicines as well as of the exciting causes of disease. All medicines are presumed to be primarily stimuli,* although from the peculiar nature of capillary action controlling the supply of blood, the stage of excitement is scarcely perceptible and corresponds to the latent stage of disease. The consequent exhaustion following upon this over-excitement constitutes the second stage, and it is during this that all the symptoms characterising each medicine are manifested. Thus the so-called physiological action of medicines depends upon what is really a diminished vital action at the point of origin. This is hard to conceive as long as our ideas are drawn from the laws of physics.

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* Sedatives, narcotics, and astringents would seem to be exceptions to this view, but this is only apparent, and their action, as explained by Dr. Fletcher,

It is harder still to conceive how a perverted quality can follow the same rule of exalted and subsequently diminished vital action. But we must remember that fatigue and spontaneous recovery are phenomena pertaining exclusively to living matter, and that recovery depends upon the renewal from the blood of the irritable matter or protoplasm by the so-called metabolic power of the still unconsumed irritable matter. If the integrity of this very varied metabolic power be impaired, especially in its germinative capacity, by the preternatural stimulus, we can easily conceive the formation of even an increased quantity of morbid material which shall be at the same time in a lower stage of development. All diseases, therefore, both as regards degree and character, at the stage we are called upon to treat it, and all physiological action of medicines, whether absolute or contingent, at the stage in which they are recognised by their symptoms, are dependent on a state of diminished vital activity, weaker life, in fact, or partial death, as it may be described. This latter term has of late been brought prominently forward, as well as the whole doctrine of debility being the primary state in nearly all forms of disease, by Dr. Chambers and others, apparently unaware how completely they have been anticipated by Fletcher, and indeed by John Brown when rightly understood. Nay, in a certain sense they may all be said to have been anticipated by Martial, who, with the intuition of a poet, embodied a similar idea in the words—

> "Non est vivere, sed valere, vita."

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though more complicated, is really of the same nature as the irritants to which the above theory more obviously applies.

As already explained at paragraphs 3, 9, and 10, vol. xvvi, the stimuli are not only an essential part of the process of healthy life, and the cause of over-excitement, but are also essential to the process of recovery. Therefore disease may be regarded practically as a state in which the cardinal desideratum for direct cure is to furnish a stimulus of a certain quality and degree of intensity. (Of course the removal of exciting causes, the attainment of physiological rest, and the adequate supply of pabulum are understood.) This is, according to Fletcher, the function performed by the classes of medicines now under consideration, viz., counter-irritants, revulsives, substitutives, and specifics. The counter-irritants by their full physiological action on the part to which they are applied cause a stimulus to be conveyed through the channel of general organic sympathy (reflex nervous action), or by contiguity, to the inflamed part; this is exemplified in the operation of epispastics, &c., which are effectual in proportion to their contiguity, as blisters to the chest in pleurisy, or to the closeness of sympathy, as when blisters relieve duodenitis, it being known that large burns often prove fatal by duodenal ulceration.

The revulsives produce their full physiological action by elective affinity on certain organs connected by special sympathy with the diseased part, and thus also convey a stimulus *to* it, as when purgatives relieve congestion of the head, or emetics orchitis, or sudorifics renal congestion, or galactagogues uterine hæmorrhage. The substitutives when locally used give a stimulus directly, but when taken inwardly do the like by their elective affinity or physiological specificity of seat, as when *Turpentine* and *Copaiba* act on the inflamed urethra and bladder, *Tartar emetic* on the inflamed lung, and *Mercury* in numerous inflammations, &c. The true specifics convey the exact stimulus required both as respects character, seat, and degree, and thus completely supply the want and restore the part to perfect health. That these last must be homœopathic is obvious, for as Dr. Fletcher says, what stimulus should be so well adapted to fill up the want as one which had already shown its capability of acting in the same manner on the healthy body as the exciting cause of the disease. We thus perceive the harmony of these different methods of cure, and also the fact that between two of them, viz., the substitutives and the specifics, the difference is merely one of degree of homœopathicity. This may be illustrated by arranging the degree of homœopathicity under the three degrees of comparison of the word "*simile*," as has been done by several in the homœopathic school, in particular, Dr. George Schmidt and Dr. Madden, though in a different manner.

In the first degree, or *simile*, are placed those cases of the relief of local inflammations by topical irritant applications, which themselves if strong enough would cause an inflammation in the same parts if healthy, and to this extent therefore may be described as homœopathic. But here, as we see in the frog's-foot experiments, almost any irritant, if carefully applied, will do to remove for a time the capillary stasis; so there is no special relation of the remedy to the particular case. It must be remembered, however, that on the one hand the true specific may thus be used topically, and on the other hand, local applications may have several other therapeutic powers beyond their influence as dynamic stimuli, some of which will be mentioned under the head of abortive treatment.

In the second degree, *similius*, are contained those substitutives which act upon the seat of the disease through the system by virtue of their physiological specificity of seat or elective affinity. There is here a far greater approximation to complete homœopathicity, for it is evident that any agent which acts in the healthy body upon the same organ as the exciting cause of the disease must manifest its operation by very similar symptoms. Likewise, to carry out such treatment would involve nearly all the technical peculiarities of the homœopathic method, both as to the proving and administration of medicines, except the infinitesimal dose. But here, as in the former class, there can be no differential diagnosis between different remedies that act on the same organ or part.

Third, *simillimum*. Here the remedy corresponds, specifically, both as to seat and character of action, supplying the exact stimulus necessary to fill up the want, and thus regenerate the irritable matter—protoplasm—in its integrity, To carry out this effectually, all the resources of semeiotics may require to be drawn upon, or, as expressed by Hahnemann, the totality of the symptoms must be taken into account. The dose also may be infinitesimal. Now, what is there in common among those various modes of action, and in what do they differ? They clearly agree in this that they communicate to the diseased part a stimulus which corresponds to the first or latent stage action of all medicines. But they differ in that some require the development of their full physiological action in order to do so. It is obvious that the counter-irritants and revulsives, besides acting on a different part of the body, belong to this latter class and therefore may be put aside at once.

Being now restricted to the substitutives and the homœopathic specifics, the question is whether my definition of a specific, viz., "a medicine which cures with the absorption of its whole physiological into its therapeutic action," will explain the difference between these two nearly allied classes. We have already said that it is never the object in direct treatment to obtain the second stage of medicinal action, and in the simillimum, where the action of the stimulus is limited to filling up a want and regenerating irritable matter, there is no danger of collateral second stage action and, coupled with the infinitesimal dose, no danger of aggravation; there being thus no stimulation in excess of the line of health, there is no tendency to collapse or recoil, and any curative effect once attained is complete and without tendency to relapse. It is otherwise in the similius, for there the adaptation of the stimulus is only partial and does not fill up the want completely as to quality. We must therefore suppose a certain surplus of physiological action, so adjusted that it shall not pass beyond the first stage. This surplus, however slight, implies the liability to collapse or recoil, and hence the tendency to relapse is the great feature of the substitutive method which constitutes the allopathic use of specifics. This will be exemplified in all the various forms of this treatment. The cure, also, is only partial, and consists most probably in mere constriction of the capillaries without removal of the other elements of the morbid process, for dilatation of the capillaries or mere hyperæmia does not of itself constitute inflammation, as is well shown by Virchow* (p. 411), although it is essential to the manifestation of all the prominent symptoms. Therefore, if by any means we can directly produce constriction of the capillaries we go a long way to the removal, for a time, of the troubles of active disease, and even place the cells in favorable circumstances for spontaneous recovery.†

> "If," says J. Hunter, "we had medicines which were endowed with the power of making the capillary vessels contract, such I apprehend would be the proper medicines in inflammation,"

And such I believe is the operation of medicines of all the three degrees of homœopathicity, but the operation of those partially homœopathic may be conveniently considered as limited to that, and hence they, especially those of the similius class, possess the power of suppressing without radically curing the disease.* This, also, we shall find exemplified in the allopathic use of specifics. It is not here implied that it is possible to limit partial homœopathicity to one phenomenon, such as contraction of the vessels, for it has no doubt a wider influence in restoring, for a time, the vital activity.

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* *Cellular Pathology.* Virchow also states at p. 119, that "in every case we have to deal with a kind of paralysis of the walls of the vessel, and that the process is incorrectly designated active hyperæmia, inasmuch as the condition of the vessels in it is always a completely passive one." On the same page also he says that the dilatation caused by stimuli is always preceded by contraction, though that is often scarcely perceptible, owing to the rapidity with which the state of relaxation follows.

† Some derivatives have a double action, viz., the evacuant revulsives and counter-irritants; in them we must separate the depletive from the counter-irritant function. It is an obvious and rational deduction that depletives, whether general or local, by diminishing the load that is oppressing the weakened capillaries in inflammation, must aid all other positive means which tend to restore the calibre of the vessels. Now, spoliatives, counter-irritants, and blisters, especially if within the so-called "vascular territories" of Virchow, may have a beneficial influence by locally depleting the inflamed part. This can hardly be great, but *pro tanto* must be deducted from the action of counter-irritants here considered. The most marked example of the benefit of local depletion is afforded by the operation of tying a large artery leading to an inflamed part, a proceeding which is said to have been followed by a speedy subsidence of all signs of active disease. These considerations help us to appreciate the influence which agents that constrict the capillaries may have in controlling the amount of morbid product and suppressing the signs of active disease, even though they do not directly cure the morbid state of the protoplasm.

We have said that, according to Fletcher, the curative action of specifics must be confined within the limit of physiological action; but to this we must note as exceptions what is called, at § 11, vol. xxvi, p. 451, the law of exercise, which requires no remark here, and also the prophylactic and abortive action of specifics, and, perhaps, some of the homœopathic actions of narcotics and astringents. When specifics are used as prophylactics they are of course intended to produce their fully developed physiological action, and thereby, according to § 17 and § 18, p. 454, vol. xxvi, exhaust the special susceptibility upon which the possibility of taking the disease depends. Likewise, even when the disease has commenced they may have an influence as abortives in shortening the duration and diminishing the intensity of the disease. This they effect in the same manner by exhausting the remaining susceptibility on which the exciting cause may still be acting. For, according to Fletcher, the intensity of a disease is, *cæteris paribus*, in proportion to the length of the latent stage, and he thus explains the greater mildness of the inoculated as contrasted with the natural smallpox. Examples in medicinal action are seen in the abortive treatment of gonorrhœa by *Copaiba* and *Cubebs;* the cure by emetic doses of *Ipecac.* of the asthma brought on by that substance in susceptible subjects; the action of *Belladonna* in the early stage of scarlatina, to which, originally, Hahnemann limited its use exclusively (*Lesser Writings*); the specific cure of hay-fever, &c.*

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* Dr. Billing in his *Principles of Medicine*, 6th edition, explains the action of *Mercury*, *Arsenic*, and other so-called tonics in inflammation by referring it to their power as stimuli of constricting the capillaries, and says that he has held that opinion since the publication of his first edition in 1831. Dr. Billing is a bold and original thinker and good observer, and no doubt came to that conclusion for himself, but at that time, and for some years before, Dr. Fletcher was publicly teaching the same doctrine in his lectures. He, Dr. Fletcher, considered it the natural corollary of what he then called the modern doctrine of inflammation, viz., that it consisted in a weakened action of the capillaries, and which had been brought forward and maintained by Lubbock and Allen in 1790, and afterwards by W. Philip (1824), Black, Hastings, Gendrin, and others. While on the subject of priority I may notice that Dr. James Ross has just published a pamphlet in which he maintains the view that counter-irritants convey a stimulus to the diseased part. Not having seen the work I cannot say whether he refers to Fletcher, but probably not, because the reviewer in the *Practitioner* for June, 1869, Dr. Anstie, claims for himself the priority of the idea which he says he gave forth in 1861. He is probably not aware that he was anticipated forty years ago by Fletcher, whose works I would recommend him to read attentively, and would particularly direct his attention to the note on this subject at p. 135, part ii, B, of the *Rudiments of Physiology*, which he will find equally applicable at the present day, as witness the recent discussion on counter-irritation.

I have already, at vol. xxvi, p. 462, compared the views of Hahnemann and Fletcher, and showed the harmony existing between them, if we divide Hahnemann's primary action into two stages and abandon the notion that his "secondary" action is a positive reaction of the organism.

To return to the relation between counter-irritants and specifics, I may here point out that Hahnemann was originally impressed with the analogy between them as we see from the following passage:

> "It is only by this property of producing in the healthy body a series of specific morbid symptoms that medicines can cure diseases, that is to say, remove and extinguish the morbid irritation by a suitable counter-irritation" (*Lesser Writings*, p. 575.)

On one point the correspondence between Gerstel and Fletcher is very remarkable, and reflects great credit upon the penetration and acuteness of the former, hampered, as he was, by the still too prevalent, though groundless, notion that the symptoms of a disease, or of a medicinal action, were produced by a positive reaction of the organism against the hurtful agent. Pursuing the analogy of specifics with derivatives, he perceived that it was not necessary to develop a complete diseased process, and that a repeated transient stimulant is sufficient to divert, as he supposes, the vital activity from its abnormal direction. This is shown by the fact that the first stimulus of the cauterising iron immediately relieves hip-disease, long before suppuration is developed. In like manner, with homœopathic cures, it is only the primary impression of the medicine which is the efficient agent. Now, he supposes that this primary impression causes scarcely any perceptible symptoms of the medicine on the healthy body, though it is the efficient agent in the process of cure. The pathogenetic symptoms, according to him, belong to the reaction of the organism, and the minute record of them is simply necessary to enable us to gain a knowledge of the character of this first impression. These principles he sums up as follows :

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* The action of local abortives is to a great extent outside the sphere of specific, or, indeed, any dynamic operation of medicine. For they may act mechanically by compression and hardening of the chemically altered integument, as by *Nitrate of Silver* and the strong *Nitric Acid;* or by excluding oxygen and compression, as *Collodion* to boils and erysipelas; or by destruction of the effused and still living white corpuscles or pus-corpuscles, as is done by *Quinine* and many chemical solutions. It is possible also that antiseptics may act thus by destroying living germs. The homœopathic school should use these means whenever it can be done without risk of aggravating the general disease by their success, or the local disease by their failure. I have found Dr. Hirsch's treatment of whitlow by strong *Nitric Acid* very effective.

" For the purpose of curative action we do not need the totality of the operation of the medicine, for that is not what is the means of cure, but only its primary action, which, strictly speaking, consists only in the impression or stimulus" (*Op. cit.*, p. 30).

The correspondence of this first impression with the first stage of Fletcher is very remarkable, as is also the recognition of the fact that in the cure the signs of physiological action must be completely in abeyance.

We shall now examine how far these principles are in harmony with the facts and rules, drawn from experience, of the ordinary or allopathic practice. In the foregoing pages it has been shown that the counter-irritants and revulsives acted on the same principles as the external substitutive remedies, and that all these shared in common in the defect that the cure was only partial and attended with great liability to relapse. I will now endeavour to show that the so-called specifics used by the allopathic school are nothing but the substitutives used internally, or the homœopathic *similius*, and share the same defects.

The *Copaiba* may serve as a connecting link between the external substitutives and the internal specifics, for a part, at least, of its efficacy depends upon the local application, to the urinary mucous membrane, of urine altered by the passage of the drug through the kidneys. This was proved by the well-known experiments of M. Hardy, in which he showed the reason of the difference of success attending the treatment of gonorrhœa by this drug in men and women. Also by the curious observation of Ricord in the patient with urethral fistula, in whom the cure of the distal portion of the urethra did not take place until the urine was made to pass through it. Likewise, by the remark of Acton, that the local application of pure *Copaiba* to the urethra is not nearly so effectual as the passage of the patient's own urine charged with it. It being admitted, also, that the internal administration of *Copaiba* is capable of setting up, in certain individuals, a well-marked irritation of the urino-genital passage, the analogy with the external substitutives is seen to be complete. At first its use was dreaded during the acute stage of the disease, but in recent times experience has shown, often by chance, that it has the power of cutting short the disease in some cases at a very early stage, and at later stages it has the power of suppressing it in a greater number of cases than can be radically cured by it through its true homœopathic operation. This last constitutes the difference between the allopathic and the homœopathic use of specifics, and doubtless depends on the power of constricting the capillaries, which all three classes of the simile possess, as before explained. According to Trousseau and Pidoux, M. Ansiaux was one of the first to put in practice the abortive method of treating acute gonorrhœa by large doses of *Copaiba*. As was the fate at first with every other specific, he regarded a certain amount of purgative action as indispensable to success, although he did not think that the remedy acted simply like other purgatives. The necessity for this evacuant and revulsive action has been abundantly disproved by a crowd of both French and English authorities, and the direct specific action of the drug is now known to all practitioners.

"M. Ribes pushed the treatment by large doses of *Cop.* further still. A patient with gonorrhœa was ordered twenty drops every morning, but by mistake he took the whole bottle, viz., one ounce in one day. The effect was colic, and hypercatharsis, but complete and permanent cure of the discharge. In imitation of this plan he began a system of treating all acute cases with large doses. [Dose not mentioned by Trousseau, though eight grammes a day are specified as that of others for a similar purpose.] He then extended the same method to the swelled testicle, acute catarrh of bladder and prostate, arthritis, ophthalmia, and all the secondary accidents of gonorrhœa, and as he assures us, with the same success, trusting to it alone without any of the ordinary adjuvants or even a strict regimen. Many others have followed the same plan with the gonorrhœa, and testify to its success, indeed the abortive plan has become recognised, but fewer have testified in favour of it in the secondary diseases above named."

These illustrate both the abortive and the suppressive treatment, but the two ought to be distinguished, for the abortive may be a true and radical cure on the principle mentioned at p. 501. It is, however, only applicable at a very early stage and seldom to be attained in practice. All practitioners must have met with patients who boasted of having been themselves, or known others radically cured of gonorrhœa in its early stage by large doses of *Copaiba,* or *Cubebs* and *Copaiba* mixed. But wider experience has shown that these are quite exceptional instances; and with respect to the abortive treatment with strong injections of *Lunar caustic,* it is now abandoned by Acton.

The imperfection of the suppressive method is known to all practitioners, and is displayed in the narrative given by systematic writers, of the attempts made to obviate the constant tendency to relapse.

"Thus Ansiaux recommends the medicine to be continued for twelve days, and Ribes ten or twelve days after the discharge has ceased, otherwise it may reappear. Delpech increased the dose gradually up to eight grammes a day, which he then continued for eight days, and then gradually diminished it to the dose from which he started.

"Trousseau and Pidoux recommend gradually increased doses

> from two to four grammes (ʒss to ʒj) up to the curative quantity, which rarely exceeds fifteen grammes (half an ounce) in the twenty-four hours. It is important to persist for several days with this dose, and not stop the treatment till after gradually descending to the dose started from. Relapses are almost certain if you stop just when the discharge is suppressed" (p. 647).

Now, among the cases treated with *Copaiba*, in a considerable number of them the cures must be homœopathic, and if such cases are deducted, there may remain a comparatively small margin, which go to the credit of the suppressive method. Nevertheless, it must have occurred to many homœopathic practitioners that *Copaiba* has failed in their hands, but has proved to be the radical cure in the same case in the hands of a routine allopathist. The same remark may also be made with respect to *Hydriodate of Potash*, *Colchicum*, *Mercury*, and *Quinine*. The explanation here I believe to be extremely simple. The medicine was in fact the true homœopathic specific, but failed from the insufficiency of the dose.

To revert to the theory of substitutive action, the following remark of Cullen with respect to *Copaiba* would seem to be the basis of Trousseau's speculations.

> "There is a case in which I have remarked that the disease (gonorrhœa) was cured by exciting a certain degree of irritation in the urethra, and I am persuaded that *Turpentine*, or what is much the same, the *Copaiba balsam*, acts in no other way than this; for I have seen *Turpentine* and *Copaiba* produce a true inflammation of the urethra, even to the extent of causing a suppression of urine, and the gonorrhœa which had subsisted for a long time was cured completely when the effects of the inflammation disappeared."

Trousseau and Pidoux say in reference to this that it explains nothing of the anti-blennorrhagic property of *Copaiba*, which is evidently something special in its action on a special phlegmasia. Yet on the opposite page to the one in which they quote Cullen's remark, they say that *Copaiba* and *Turpentine* do not

"Merit the name of *specifics*, for this qualification is only applicable to the medicines which produce a given result without our being able to comprehend the intermediate phenomenon which unites the medicine to its effect, *e.g.* the *Cinchona* in agues, *Mercurials* in syphilis, and the antispasmodics in idiopathic convulsions. We see in effect in those cases an agent introduced into us on the one hand, and a special effect on the other; but to find the physiological act interposed between these two facts is what we cannot do. Now, if *Turpentine* and *Copaiba* act really on the mucous membranes affected with catarrh by modifying them in such a way that the new state, the kind of artificial irritation they produce, causes the cessation of the pathological state—the morbid irritation of another kind with which they were affected; as we see in respect to a great number of specific and refractory inflammations which we cannot cure except by substituting for them an artificial phlogosis of which the character and extent are known to us. If all this is the case, let us say the title of *specifics* is no longer applicable to those resins, since we have discovered the physiological phenomenon by means of which the *Copaiba*, for example, suppresses the blenorrhagia, and henceforward that action whose *modus operandi* was not understood, that pretended *specific* action is placed by analogy alongside of a number of other therapeutical actions which are outside of *specificity*" (p. 646).

Now, our authors have already said, at p. 586, that *Turpentine* taken internally acts in chronic catarrh of the bladder in the same way as it would if applied directly to an inflamed mucous membrane, and that this mode of cure is by "*substitutive irritation.*" Why do they stop short and not speak of a substitutive fever in the treatment of ague by *Cinchona?* Can anything be more natural as the sequence to the whole train of reasoning carried out in the theory of substitution in inflammation? Hahnemann's idea was simply that *Cinchona* cured ague by exciting an antagonistic fever. The fact that *Cinchona* does excite distinct febrile paroxysms was at first denied, but it is now established beyond doubt and generally admitted, but still theorists try to escape the obvious inference that the homœopathic law expresses the true relation between the medicinal action and the cure, by starting a variety of hypotheses the most notable of which is that *Cinchona* cures ague in virtue of its *antiperiodic* power. This is repeated from one author to another, and is now a commonplace expression among practitioners. We even find homœopathic practitioners at times using the same word. Yet no proof has ever been attempted to be given that its power over certain fevers and neuralgias depends on its abstract virtue as an antiperiodic. The truth is this theory, even if such a power were conceivable, rests on no foundation at all but the simple observation that *Cinchona* cures certain febrile and other effects of marsh poison ; and as these happen to be periodical, and as that quality happens to be *very easy to observe,* it is at once put down to be the mainspring of the whole therapeutic process. Now, in the proving of *China* there are certain groups of symptoms that are periodic, most of those not fever. There are likewise certain febrile paroxysms that have been more rarely observed, which are also periodic, but they are not so marked as the other characteristics of *China.* Hahnemann laid little stress on the periodicity, and thought more of other characteristics for the choice of *China* in agues and neuralgia. I have gone into a full examination of the difference between the allopathic and homœopathic modes of treating agues, using for the latter the admirable data given by Wurmb and Caspar, and Clotar Müller, and find that the result of the practical experience of these authors is that the type of the fever affords no guide to the choice of the medicines. This fact is almost decisive against the periodicity being the main point; and on summing up the reasons for the differential diagnosis of the medicines, we find that the periodicity of the symptoms, though one of the elements of the "totality of the symptoms," is quite a subordinate one. The choice must be based on a consideration of the signs which go to fix the character of the cachexia as well as the minute distinction of the separate paroxysms. This subject will be gone into more fully in an analysis of the action of *Cinchona,* but the conclusion is that it cures ague, not as an antiperiodic, but in virtue of its power to produce febrile paroxysms and cachexia similar to those of the marsh poison.

There is no reason why it should not have been at once put in the same category as *Turpentine* and *Copaiba* by Trousseau and Pidoux, unless the unphilosophical one that so doing would still farther favour the homœopathic theory. As to how the *Cinchona* can prevent the accession of repeated paroxysms by a suppressive power, it may be sufficient to say that it is in the same way that *Turpentine* and *Copaiba* can suppress and keep down certain catarrhal states of the bladder and urethra as long as they are given, or that certain local substitutives relieve as long as they are used.

The radical cure of its own proper ague by *Cinchona*, doubtless is by the simillimum process, as before explained. But the vital mechanism of the process of suppression by a certain surplus of physiological power is more difficult to follow, as the bearing of the nervous system on the capillaries in fever is not yet fully worked out. It is probable that the surplus primary action of the *Quinine* on the capillaries of the centric grey matter of the vaso-motor nerves prevents them from falling into that state of collapse and dilatation which may be the immediate cause of the cold stage of the febrile paroxysm.*

In the suppressive treatment of fever by *Quinine* we see the same peculiarity as to repetition of the dose and tendency to relapse as was observed in the case of the substitutives. The following are the principal modes of the allopathic use of *Bark* and *Quinine* in ague :

*Bretonneau's method.*—Eight grammes of *Bark* or one of *Quinine* is our dose as far as possible before the expected paroxysm. The same dose in five days, and again in eight days, and so on at intervals of eight days for a month.

Trousseau states that the above plan almost never failed to cut short the fever at Tours in Bretonneau's clinique. But when he came to try it in his own clinique at Paris he had frequent failures, and therefore modified the plan by giving the same dose first at one day's interval, then at two days' interval, then at three days' interval, then at four. After that according to Bretonneau. This he states was successful, but he gives no statistics (p. 350).

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* From the difficulty of maintaining the first stage of the action of *stimuli* on the vessels, it is probable that the surplus physiological action here may really be the second stage acting through the ganglionic nerve-cells of the vaso-motor nerves, the effect of which would be the same, viz., constricting the systemic capillaries concerned in inflammation and fever; but to discuss that fully would lead us into the large and complicated question of the nature of stimulants as distinguished from stimuli, and the bearing of the nervous system on the vessels.

*Sydenham's method.*—Two scruples of *Bark* every four hours, beginning at the end of a paroxysm, till one ounce is given. Then in eight days repeat the same, and so on thrice more at the same intervals, though no paroxysm has returned.

In some of these cases, doubtless, the medicine is homœopathic and a true radical cure takes place, but in the great majority the action is merely suppressive, and if the patient does get well, it is simply because the paroxysms are skilfully kept down till he recovers from the cachexia by time, and the mere removal from the malarious district. This view is supported by the following quotation from Trousseau and Pidoux, vol. ii, p. 347 :

"Without doubt, and we have seen a thousand examples of the fact, when the *Bark* is administered at proper times and in proper dose, the subsequent paroxysm is suppressed; but not so completely as to prevent the patient from feeling some slight reminders of it; these are, either a too great heat, accompanied by general malaise, or what is more common, abundant sweats, which are reproduced on the days when the paroxysm ought to have come on. The fever is then not really cured, and if the febrifuge is abruptly left off, we soon see the paroxysms reappear, at first weak and ill-defined, but soon with their character well marked and positive. Hence the admirable precept of Torti" [viz. that of repeating the dose at intervals.]

They conclude with a remark that we have already seen applied to the substitutives.

"We wish here to make an important remark which will display more palpably the excellence of the method of Sydenham and Bretonneau; it is, that if after the most skilful administration of *Cinchona* you cease abruptly to give the medicine the fever returns, and you must begin again from the beginning exactly in the same way" (p. 350).

In some cases of chronic catarrh of the bladder Trousseau and Pidoux remark that *Turpentine* produces at first all the physiological signs of the medicinal action, such as that in the kidneys and urinary passages, swelling and tenderness of the hypogastrium, strangury, and more abundant secretion of mucus; "in a word, a true recrudescence of acute cystitis." On cessation of the medicine, and by the use of emollient drinks and baths, all this subsides, and the original complaint is found to be ameliorated. This might countenance the theory that a new inflammation is really developed and substitutes itself for the old one, as was Hahnemann's original supposition; but the more probable view is, that it is an unnecessary aggravation; for we find that Trousseau and Pidoux admit there is another class of cases in which *Turpentine*, even in large doses, simply cures the case without the production of any physiological symptoms at all except the violet odour of the urine. In these cases the cure is either simply homœopathic in spite of the large dose, in patients whose susceptibility is not great, or if it belongs to the *similius* and is a temporary suppression, it shows that that also requires only the first stage action, and not the full development of the physiological state.

The fact that the substitutives simply suppress the disease without causing any of their own physiological action or aggravation is a remarkable one and has not received sufficient explanation from either school, but it runs through all the instances of the allopathic use of specifics. Hahnemann has not satisfactorily explained this suppression of the disease by partially homœopathic medicines, but simply denounces it in company with the ruck of allopathic appliances. No doubt he is right in dwelling on the great superiority of the true homœopathic remedy, but that does not explain why the partially homœopathic one should suppress and not aggravate in such doses, more especially as his explanation, viz., suspension by a stronger dissimilar disease, is much the same as Trousseau's explanation of the substitutive methods. From the facts I do not see how we can escape the conclusion that Trousseau's theory of substitutives is incomplete, and that they do not, in fact, produce any *substitutive inflammation* at all, but only, as here said, a slight surplus of the first stage action of Fletcher.

With respect to the fact adverted to above, of the occasional failure of homœopathic practitioners to cure cases by specifics which succeeded in the hands of empirical practitioners of the old school, as a matter of experience I believe that many of these medicines may require for the full development of the true homœopathic cure very nearly the dose used by careful and experienced practitioners of the old school. For example, with *Copaiba* most of the homœopathic school find the infinitesimal dose quite insufficient, and will be ready to agree with Acton, who says the dose should be merely enough to make the urine smell strongly of it when first passed (p. 65). With such doses I believe true homœopathic cures without relapse can be effected, and within such doses *Copaiba* will cure all cases to which it is really specific. At the same time, by a greatly increased dose, the disease may be suppressed and kept down in a number of cases which the moderate dose would not effect at all. A similar remark has been made by our German and American brethren with respect to intermittent fever, in which they find that *Quinine* generally requires to be given in the 1st decimal trituration, and at times may be pushed to two or three grains of the pure drug in order to effect the truly homœopathic and radical cure. With *Hydriodate of Potash* I have found that two grains is about the dose within which the truly homœopathic action may be expected. Similar remarks may be made with respect to *Mercury, Colchicum,* and other specifics common to both schools.

The fact that large doses of a mere *similius* can suppress without radically curing certain diseased states appears to countenance the opinion that it is only cures by infinitesimal doses which are true homœopathic cures, and that those in the homœopathic school who use palpable doses deserve the title of mere specifickers, who endeavour to make up for their careless choice of the remedy by enhanced strength of the dose. There is certainly much to be said in favour of this dictum, but the truth I believe to be this. It is quite true that a cure by a high dilution, or even any dose strictly called infinitesimal, must, as far as we know, be due to the homœopathic suitability of the medicine, and in crucial experiments and the detail of model cases from which are to be drawn such confirmation or new information as clinical experience affords, these are probably the most valuable cases, and furnish us with the minute characteristics of the simillimum. But, on the other hand, there are many medicines which will not act strongly enough, either on the healthy or diseased body, to bear dilution to infinitesimal degree and still retain any useful power. In the next place, owing to the vast difference of susceptibility of different persons, as adverted to at p. 616, vol. xxvi, the dose which might make a cure and be a model cure in one individual will have no effect in another in whom a stronger dose would be safe and effectual, even though large enough to produce primary effects in certain susceptible persons.

Nay, even for the reason given at p. 469, vol. xxvi, a medicine may be strictly homœopathic and cure without aggravation in one individual a morbid state which was induced in a prover by a much smaller dose. For these reasons, and those given at p. 617, vol. xxvi, I conclude that the rule is incorrect which assumes the model clinical cases to be an absolute and universal guide in practice as to the dose, and that if you do not cure with the same dose, the inference is that the choice was wrong; on the contrary, I hold, as the result of repeated experience, that you may often succeed by simply augmenting the dose, and that even to palpable quantities approaching what is used in ordinary allopathic practice empirically, while the cure is still strictly homœopathic. I admit it may be impossible to fix the limits of minuteness in which a dose of a true simillimum may change metabolically the living matter enough to effect a cure, just as it is impossible to fix the limit of the divisibility of matter. But I hold it now proved that in many cases the true homœopathic remedy must be given in tolerable doses to show its proper degree of curative power.

In conclusion, let us note a few points of contrast between the substitutives and the true homœopathic specifics. The substitutives are most effectual in the early stage of the disease; the homœopathic specifics are applicable to all stages, and are more strikingly beneficial when the disease has reached its height. The substitutives require a certain size of dose which must be repeated at regular intervals or even augmented: with the homœopathic remedies the dose has a much wider range, and is often sufficient when inconceivably minute, and at times without repetition. The substitutive action must be maintained at its full by repeated and sometimes augmented doses for days or weeks after the disease is subdued in order to guard against relapse; on the other hand, the homœopathic cure is not liable to relapse, and the dose need not be repeated while the amendment continues (*Org.*, § 245). In the *Medicine of Experience* Hahnemann says—

> "The repetition of the dose of a medicine is regulated by the duration of the action of each medicine. If the remedy acts in a positive (homœopathic) manner the amendment is still perceptible after the duration of its action has expired, and then another dose of the suitable remedy destroys the remainder of the disease. The good work will not be interrupted if the second dose be not given before the lapse of some hours after the cessation of the action of the remedy."

Though in many diseases frequent repetition of the dose may be necessary, yet the general experience of the homœopathic school confirms the principle that benefit continues to accrue while allowing the medicine to work out its action. The same is observed in the after-action of mineral waters, which may be accounted as homœopathic medicines.

In the foregoing pages I have endeavoured to show the true place of specifics in pharmacodynamics, and also to justify the definition of a specific repeatedly insisted upon, as well as to explain the difference between the homœopathic and allopathic use of specifics. I will for the present conclude these papers, in the hope that at some future time I may be able to take up the subject alluded to at p. 265 of this volume.

## REVIEWS.

*A Manual of Homœopathic Therapeutics; being the second part of a Manual of Homœopathic Practice, for Students and Beginners.* By Richard Hughes, L.R.C.P. Ed. (Exam.), M.R.C.S.Eng. London: Henry Turner and Co.

With the second, as with the first part of this work, we obviously have nothing to do in the way of review. We are limited, as before, to noticing the fact of its publication; and citing from it what will suffice to give our readers a useful idea of its contents. For this purpose it will suffice to extract the

"Preface.—Much of what I have said in preface to the first part of this work is applicable also to the present volume. I have, moreover, in the 'Introductory' Letter of the following series explained the principles which have guided me in this, the therapeutic portion of my undertaking. I have a very few words to add in this place.

"I have strictly kept before me the object I originally proposed, viz. to supply a manual of Homœopathic practice suitable 'for students and beginners.' I have written for these, and not for men of standing and experience. I have attempted to put in a compact and accessible form those applications of remedies to disease which general consent has stamped as *classical.* These are the alphabet and grammar of Homœopathic practice: the student must learn them, and cannot acquire the knowledge of them by chance or instinct. The practitioner of standing, on the other hand, is ever endeavouring to overflow and pass over these well-beaten boundaries. He is seeking for remedies for diseases hitherto neglected, for more accurate adaptations of the medicines he has already learnt to apply, for new weapons from the great armoury of Nature wherewith to make his strokes more effectual. For him I have indeed a suggestion here and there: but I have not his wants primarily in view. The development of the Materia Medica on the one side, the increased knowledge of disease on the other, are what he needs: and these things are beyond my present scope. But if I can make the study of Homœopathy less bristling with difficulties, and the early attempts at its practice less tentative and haphazard, I think I shall have done good service. We should have been a larger band than we are, were it not for the many would-be students who have been repelled and the many beginners who have fainted and turned back for lack of a guide.

"If the present volume shall meet the kindly reception accorded to its predecessor I shall have every reason to be content."

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## *A Handbook of Therapeutics.* By SYDNEY RINGER, M.D., Professor of Therapeutics in University College, Physician to University College Hospital. London: Lewis, 1869.

Nothing can well give a better notion of the unacknowledged influence the teachings of Hahnemann and his followers have exercised on the therapeutics of the old school than a comparison of works on therapeutics of a few decades ago with those of the present day. The vague generalizations of drugs and their supposed actions on the economy in health and disease that distinguished the older works have gradually given place to attempts more or less successful to define the more specific actions of medicines, and the indications for their use are now more elaborately set forth, and tend unmistakeably to the principle with which Hahnemann's name is indissolubly connected.

An examination of this the latest systematic work on therapeutics by a professor of the dominant school shows us how rapidly the teachings of that school are converging towards the specific doctrines of the homœopathic school: in fact, we might give many extracts from the work before us which might equally well have appeared in the work of a writer on homœopathic therapeutics. Let us take an example or two at random. Speaking at p. 170 of *Bichloride of Mercury*, he recommends as the dose for children one grain dissolved in half a pint of water; a teaspoonful of this solution for a dose; and he gives the following as the symptoms that should guide us to its employment: "Very slimy stools, especially if mixed with blood, and accompanied by pain and straining, The slimy character of the motion is the great indication for this medicine, which character will, with certainty, be removed by its exhibition. It sometimes happens the slime is very tenacious, and, being coloured with blood, is described by the mother as 'lumps of flesh.' This affection, as we have said, may be acute, or it may be chronic, and last for months. In either instance the relief and cure by the bichloride is remarkably speedy and certain. The dysentery, acute or chronic, of adults can be relieved in a similar manner if the stools are slimy and bloody."

Here are indications for the employment of *Arsenic*, in the dose of one drop of the solution, which, dose and all, might have passed in a work written by a member of our school for very good homœopathic practice: "There is a sinking at the pit of the stomach, which is relieved by food, but immediately this is taken, nay, even while it is being eaten, there is an urgent desire to relieve the bowels, which may compel the patient to leave the table. The motions then are solid, or semi-solid, and usually contain lumps of half-digested food. The disease appears to depend on a too great peristaltic action of the stomach and intestines, whereby the food, before it is digested, is driven from the stomach to the intestines, and thence expelled. This is a form of diarrhœa common with children eight to twelve years of age. It may last many months. By the use of *Arsenic*, in a few days, the interval between the meal and the evacuation is much prolonged, and at the end of a week or ten days the disease is removed" (*Ringer*, p. 191).

We might multiply instances of this homœopathic practice to any extent; indeed were we to extract all such to be found in Dr. Ringer's work, we should have to convey at least one half of it to our pages. We must let these two specimens suffice, as we have space for no more.

After the depressing scepticism as to the therapeutic action of drugs at all, so apparent in most of the treatises by old school writers, it is positively refreshing to meet with an author like Dr. Ringer, who talks thus confidently of the curative powers of medicines.

We hail this work as an exhilarating token of the set of the current of modern medical faith to homœopathy, and when we find the professors of the old school tending so unmistakeably towards the tenets of the new, we can easily foresee that the time is not far distant when there will be but one school of medicine, and when the whole medical world will unite in acknowledging the immense deserts of Hahnemann in this matter of therapeutics, and accord him a prominent place in the Walhalla of Physic as the true father of modern medicine.

We can heartily recommend Dr. Ringer's work to our homœopathic colleagues, for besides the satisfaction they will receive from seeing in it such disinterested testimony to the value of many of their own remedies, they will also find in it much useful information with regard to that large group of neutral remedies which cannot be said to belong exclusively to either school, but which are essential to every practitioner who would wish that his patients should enjoy the advantage of all improvements in the healing art.

## CLINICAL RECORD.

### *On Gastralgia.* By Dr. HIRSCHEL.

About two years ago I was consulted by a merchant of Dresden of the name of M—, whose father I had cured rapidly of chronic spasms in the stomach, connected with hepatic derangement, by means of *Nux*, *Bryonia*, and *Bismuth*. This young man, who was stout and healthy-looking, though affected with abdominal plethora, complained particularly of eroding pains in the stomach, which went off after eating, but on the termination of the digestive process, in the forenoon, afternoon, and night, always came on, and were attended by waterbrash and constipation, and sometimes bulimy. There were no other symptoms present; I should particularly mention that there was neither sour taste nor heartburn. The tongue was clean, but too red. Still I concluded that there was a formation of acid in the stomach, because all signs were wanting of a deeper seated gastric ailment, especially of ulceration, to which the gnawing character of the pain might have pointed. No other symptom was present on which the indication might have been based. It is well known that the *kind of pain* is the chief indication in the treatment of spasm of the stomach. Among the *anticardialgic* remedies, *Arsen.*, *Cupr.*, *Iodine,* and *Nux vom.* alone have "erosion," *Cuprum* eroding pricking as with needles, *Arsen.* and *Iod.* gnawing erosion, *Nux vom.* choking erosion. But apart from the absence of these latter more particular characterisations in the case before me, the medicines in question were not suitable because, and this is especially the case with respect to *Arsen.*, *Cupr.*, and *Iod.*, their "eroding pain" points to ulceration. I therefore resolved to attack directly the cause, viz., the excessive development of acid, which seemed to be sufficiently proved by the bulimy, the cessation of pain by eating, and its recurrence after the completion of digestion, as also by the kind of pain (action of the acid on the walls of the empty stomach).

I prescribed *Magnesia muriatica,* trit. 1, as much as would lie on the tip of a penknife, night and morning, and in three days had the pleasure to see my patient relieved of his troublesome spasm of the stomach. At a later period I had to treat him for other forms of spasm of the stomach, generally caused by drinking beer, or by vexation (though the affection seems to be hereditary in his family); and these I have always succeeded in removing by *Nux*, *Arsen.*, or *Phos.*, but the above form of the disease never again returned.

Unimportant as this case is in itself, it shows that attention to the symptoms does not alone suffice, but how important it is to reflect and to have regard to the *causal* element. *Magn. mur.* has not among its symptoms the *eroding* pain, it has aching, ulcerative pain, tension, as if cut to pieces, shooting pain, cutting; but it was suitable in this case because it destroys acidity. I should add that for years past I have employed this medicine by preference in cases of excessive formation of acid, and, *cæteris paribus,* have observed more good results from it than from *Calc. carb.* and *Acid. sulph.*, in cases, namely, where we have chiefly to do with the chemical process of digestion.

I take this opportunity to make some practical observations respecting the treatment of spasms of the stomach, which are of very frequent occurrence in Dresden, and which are favourite subjects of treatment with me, because the indications for their treatment are more distinct than in most other diseases. The commonest form we observe is the venous hyperæmic form produced by the abuse and bad quality of the coffee (called *Blümchenkaffee* [flower-coffee], because it is so weak one can see through it the flower painted at the bottom of the cup), and of late years by excessive beer-drinking and its efforts on the biliary secretion and liver. Next in order of frequency is the nervous form in anæmic and hysterical subjects which we have pretty often as a consequence of improper food (our butchers' meat is not particularly good), and depending on the prevailing social, physical, and moral surroundings. The rarest form is the organic—I refer to the ulcerative kind. I cured an interesting case of the latter sort in 1867, after it had been long under allopathic treatment without benefit. I will give a slight sketch of it here.

Miss von E—, whose two sisters, living abroad, both suffer from decided ulcers of the stomach shown by hæmatemesis, had suffered for years from an affection of the stomach. It at last became so bad that the lightest food could not be borne. Immediately after eating she had aching in the stomach, and in from two to three hours after meals she had violent *sore pains, gnawing, feeling of tension in the stomach,* uneasiness, low spirits, and debility. At the same time constipation, the gastric region sensitive to touch, emaciation in a high degree. The patient was almost transparently pale. Coffee and alcoholic drinks and vegetable acids could not be borne. I ordered quite a different diet from what she had been taking (I must especially warn those persons suffering from spasms of the stomach against fruit in any shape, whether raw or cooked), and I prescribed *Phosphorus.* This gave some relief, afterwards *Arsenic* did a great deal, and when nothing remained but a slight feeling of dyspepsia and an internal *twitching* as if in the walls of the stomach, the prolonged use of *Atropia sulph.* 3 completed the cure so perfectly, that my patient is now married, and the mother of a child, which she is resolved to nurse herself.

I may take this opportunity of remarking that in cases where the *sensation of distension* is predominant, *Arsenic* is a very good remedy, though the repertories make no mention of this symptom. They give it under *Calc., Hell., Petr., Phos., Sab. Aristolochia serpentaria* also has it. The opposite of this symptom is *constriction.*

A short time since I cured a stomachache with this symptom with a few doses of *Cocculus* 2 (*Guaiacum* and *Gentiana lutea* among the new medicines have the same symptoms; for the older medicines that have it see Jahr's *Symptomencodex*).

I likewise cured, with a few doses of *Arsenic*, a painful stomachache that came on at regular periods every afternoon at the same hour, accompanied by diarrhœa.

*Phosphorus* has been of most use to me in *gnawing* stomachache, increased by movement.

Of all remedies, that most frequently required, in consequence of the abuse of coffee before alluded to, is *Nux vomica*. It is also of extraordinary efficacy in a kind of *distension of the stomach* I have often met with, which often occurs in young growing girls, and which is attended by real enlargement of the stomach, which can be detected by percussion and palpation, and is often accompanied by corresponding pressure and obstruction of the breath. Flatulent articles of food, especially bread, increase the latter symptoms to real dyspnœa. In such cases *Nux* speedily does good. But I must confess that it is not sufficient for the radical cure of all cases for which these symptoms seem to indicate its use, and we often find that after *Nux*, *Bismuth* (*Met.* and *Nitr.*) is of more service. I regret that this remedy, which I can sincerely praise, is so little known and employed by the majority of homœopathists, and I can only repeat the praise I have bestowed on it in my *prize essay on Gastralgia*, strengthened by several years of further experience. It is particularly suitable in *neuroses* and will *infallibly* do good when the aching pain manifests itself as *heaviness* and a *weight in the stomach*. The effect is seen sometimes after three or four doses. I prescribe one grain of the 1st trit. morning and evening, for experience has shown me that *weaker doses do nothing in this case*. Perhaps it is this administration of it in too small doses that is to blame for our neglect of a remedy which has long been successfully employed by the allopaths in an empirical manner for spasms in the stomach, and which we still find forms an ingredient of almost all their prescriptions for gastralgia.

As a rule,—*ceterum censeo*—in this most subjective and nervous affection, I have *never* required to give remedies higher than the 6th dilution, and have generally found the 3rd or 2nd to suffice. (*Neue Zeitschrift für Hom. Klinik*, 1st December, 1868.)

[It is but seldom—too seldom we admit—that cases detailed by one homœopathic practitioner are subjected to rigid criticism by his colleagues. We are too apt to accept the facts and deductions of the writer without inquiring too minutely into their authenticity and tenableness, and if they do not appear satisfactory to ourselves we are generally content to leave them unnoticed and get them off our mind as fast as possible. We think, however, that a critical examination of many of the recorded cases of homœopathic cures might be very useful and instructive, even though it might seem to the recorder to be hardly courteous to himself. We are, accordingly, glad to find that the first of the cases recorded by Dr. Hirschel in the above article, and which he calls a *causal* cure in contradistinction to the usual cures of homœopathists, which may be called *symptomatic*, has been subjected to a thorough and searching criticism by Dr. Buchmann, of Alvensleben, so well known to the readers of this Journal, and we have no hesitation in reproducing here the remarks of our critical colleague. Our readers will form their own opinion as to the soundness or otherwise of Dr. Buchmann's criticism.]

The author inferred from the eroding pains in the stomach which went off after eating and returned after the completion of digestion, which were attended with flow of water, obstruction and sometimes bulimy, though there were no sour taste and heartburn, and the tongue was clean, that this was a case of formation of acid in the stomach.

Now, although *Magnesia muriatica* has among its symptoms no eroding pains, the author prescribed this remedy in the first trituration "because it removes the excess of acid."

In the first place the author could only *guess* there was excess of gastric acid in this case, and it appears to me to be but slightly rational to found a method of treatment on mere guesswork, more particularly what is called a treatment of the cause, without the least regard to the array of symptoms or the choice of the remedy which, indeed, he does not consider to be appropriate for the array of symptoms in question.

The author concludes from the circumstance of the patient losing his stomachache in three days during the exhibition of *Magn. mur.* that a consideration of the symptoms alone does not always suffice, but that it is necessary to reflect and to have regard to the cause of the disease.

But what justifies the author to consider *Magn. mur.* the remedy in this case? Might not the spasms in the stomach cease spontaneously after three days? In this case it can only be *presumed* that the cure was effected by art, and, hence, his account cannot prove that regard to the symptoms only would not have sufficed to cure the gastralgia.

And yet the author did not make use of any of the remedies which cause eroding pains in the stomach, such as *Arsen.*, *Cupr.*, *Iod.*, and *Nux vom.*, therefore he cannot know that one of these remedies would not have cured the gastralgia at once in place of in three days.

Thus, the proof is not afforded by the author's account that regard to the symptoms alone does not suffice for the cure, but that the cause must be taken into consideration.

Three of the remedies mentioned above are said to be unsuitable because they point to the ulcerative form ; but to us it appears that if these remedies can remove the eroding pains in the ulcerative form, they will be able to do so all the more easily if no ulcer has yet been formed, for we cannot infer from the pathologico-anatomical changes after poisonings (which are not always met with), that the remedies do not act where similar changes (which cannot always be diagnosed in the living body) are not present.

But if we are willing to admit the possibility that *Mágn. mur.* cured the gastralgia in this case, if, moreover, we allow that an excess of gastric acid was present, still this remedy did not cure the gastralgia by removing the excess of acid.

Before giving the proof of this assertion we must examine what our author means when he asserts that *Magnesia muriatica* removes (*tilgt*) the excess of acid. His object would only be to neutralise the excess of acid, seeing that he holds it to be the cause of the disease, which he wishes to cure by treatment of the cause, and he further says that he employed this remedy particularly in reference to the chemical element of digestion.

In this case there can be no question of a removal of the presumed excess of gastric acid by homœopathic means, seeing that it was not present as a symptom, and that a homœopathic remedy can only be chosen in accordance with the totality of the objective and subjective symptoms, not, however, in accordance with a pathological state which can only be inferred by reflection upon those symptoms.

Thus the author can never have intended simply that this was a homœopathic causal treatment, for such a notion is an absurdity.

Excess of acid in the stomach can only be considered by the homœopathist as a cause of disease when the acid is introduced into the stomach from without, otherwise it can only be regarded as a symptom of the general affection, just like any other symptom.

Here, therefore, the author has had recourse to the allopathic treatment which Hahnemann (*Organon*, § 8) condemned in the allopaths as one-sided (for giving the medicine in the 1st trituration does not render the treatment homœopathic), and he could select no more appropriate example of *contrarium contrario* than the removal of an excess of gastric acid, but it does not appear to us to be a well-selected example for the imitation of homœopathic physicians in the pages of a journal of clinical homœopathy.

The author's blunder is capped by his error in supposing *Magnesia muriatica* to be an antacid remedy. *Magnesia usta*, *Magnesia carbonica*, *Natrum*, *Kali*, and *Calcarea carbonica* possess this property, but if the gastric acid was capable of decomposing *Magnesia muriatica*, it would but set muriatic acid free, and even were *Magnesia carbonica* substituted for *Magnesia muriatica* to remove the acid, this could hardly be accomplished by an insignificant portion of the 1st trituration. In such cases Rademacher's followers give the alkalies by ounces at a time without their being always successful in removing the presumed cause of the disease.

In order to be convinced that *Magnesia muriatica* possesses no antacid properties it is not now requisite to possess a scientific knowledge of chemistry, for any non-medical person can see in the Materia Medica the symptoms of acid formation in the stomach. The symptoms—sour taste in the mouth, much acid in the stomach, bitter sour eructations, eructations with sour rising of the food, rising up of sour water—are sufficiently obvious.

If, then, the *Magnesia muriatica* really cured the gastralgia, the cure was not effected by treatment of the cause, but was an unconscious homœopathic cure; but that the patient was not radically cured is shown by this fact, that the author had subsequently to treat him for other forms of gastralgia. A hereditary gastralgia like this cannot be radically cured by so-called causal treatment by means of neutralising the gastric acid, and rarely can it be cured by the 1st trituration. Higher potencies are required.

The display of such specimens of causal indications in our histories of cases, in which the homœopathic principle is altogether discarded, notwithstanding the intention of the author to give a more scientific character to homœopathy, is not calculated to give our opponents a high idea either of our scientific education or of our reliance on the advantages of the homœopathic method (*Allg. Hom. Zeitung*, January 4th, 1869).

# MISCELLANEOUS.

### *Physiological and Pathogenetic Effects of Mercury and Iodide of Potassium.*

It must be acknowledged that the preparations of *Mercury* act upon the blood, and upon most of the functions of the economy. Under their influence, the aqueous contents of the blood become augmented at the same time as the hæmatine, while the globules and the albumen are diminished in quantity; the urine, which is turbid, alkaline, and scanty, sometimes contains albumen and mercury eliminated by the kidneys. More copious in certain cases, the alvine evacuations contain bile and epithelia. The skin becomes moist, the eye loses its brightness, the tongue is furred, and the bronchial secretion is increased. Fife, and afterwards Prout, ascertained that the prolonged use of a mercurial treatment determines a decrease in the proportion of carbonic acid inhaled. In a general way the action of *Mercury* upon the economy is opposed to the increase and to the development of new tissues; and the proof of this is that animals and men subject to this agent during the period of growth scarcely increase in weight, and that in adult age they may lose bulk.

I shall not dwell longer on their physiological effects; the pathogenetic effects differ little from them. If the change in the blood becomes well marked, the lips grow pale, the eyes become hollow, the emaciation increases, the nervous and muscular functions are weakened, the tissues are flabby, the breathing is difficult, and sometimes hæmorrhages occur at various points of the body, but especially from the gums and mouth. This condition, to which the name of mercurial cachexia has been given, is, however, but rarely observed, at least at the present time, in individuals treated for syphilis; but there are other symptoms which are more frequently met with. Mercurial fever, characterised by marked uneasiness, an easily appreciable acceleration of the pulse and depression rather than increase of power is most frequently combined with a bad state of the digestive functions and with salivation. Sweating, erythema, and eczema, symptoms pointed out by Pearson in 1783, have since been carefully studied by Alley. Erythema, which is devoid of analogy with roseola, is rather rare; the vesicular eruption is more frequent and consists in a quantity of small acuminated vesicles resting on a red base. Ulcers of the mouth and pharynx, already well described by Bell, also possess peculiar characters upon which we have already dwelt (vol. i, p. 170).* A symptom much more frequent is mercurial stomatitis; the swelled and painful gums are covered with whitish pellicles; the breath is fetid and the patient complains of a metallic taste in the mouth; the tongue, covered with a mucous layer, is thickened, and saliva flows abundantly from the mouth. * * * Dyspepsia is another bad result of mercurial preparations; the appetite falls off, digestion is difficult, and there is a feeling of weight in the epigastric region. Under these circumstances the patient sometimes becomes emaciated, and is irascible and impetuous. * * * Certain derangements of the nervous functions appear also to depend on the use of mercurial preparations. Cases furnished by Colson and Diday show that tremor may be one of the effects of the employment of *Mercury*, and it is not impossible that certain forms of madness (hypochondria, idiotcy) also acknowledge the same origin.

*Iodide of Potassium* is easily absorbed. The first effects of its physiological action, according to Prof. Küss, of Strasburg, show themselves in the alimentary canal, where it acts by contact before it acts by absorption. A sensation of dryness and thirst is felt in the pharynx, which, if the doses are rather large, becomes red and swelled at the same time with the tonsils, without much difficulty in swallowing. An increased secretion of mucus or iodic ptyalism succeeds this condition. The saliva is viscous, while neither the gums nor teeth present any pathological change. After using the *Iodide* for some time in increasing doses, the tongue becomes covered with a uniform greyish layer, easily recognisable when it has once been seen. This layer, which usually precedes the iodic eruption, is the indication of the maximum therapeutic effect, and thus its absence or its presence may be a source of valuable hints for the augmentation of the doses. In the respiratory apparatus a stuffing up of the nasal fossæ is frequently observed, from the exaggeration of the secretion of the pituitary membrane, a true coryza, in a word. The bronchi share this process. There is a dry cough, but little marked, with frothy but never thick or purulent expectoration. On the part of the circulation there is first of all acceleration and fulness of the pulse; then, at the expiration of a period of time varying with the individual, the pulse becomes depressed and finally resumes its first condition. This, according to Küss, explains the contradictions of the experimenters. Hence also the conclusion that persons whose pulse is naturally quick are less easily acted upon than those whose pulse is more moderate. The salt of iodine is met with in the blood with all its chemical qualities; its action consequently is entirely catalytic, and it does not modify the blood-globules either in form or in number. Its pathogenetic influence is almost null, if we know how to graduate the doses of it, and dilute it with a sufficient quantity of fluid. Wallace, nevertheless, points out as consequences of the use of this drug, constipation, profuse perspirations, and more rarely salivation. Its special action on the skin manifests itself in the form of iodic acne, the more or less discrete pustules of which have, at first, for their favourite seat, according to Küss, the regions nearest to the syphilitic lesion. The appearance of this eruption may safely be predicted when the greyish coat appears upon the tongue, which announces the saturation of the economy. Küss mentions also a limited infiltration of the subcutaneous connective tissue of all the regions of the body, affecting by preference the vicinity of the parts affected. Cephalalgia, tremor, vertigo, and neuralgia are the further derangements which may result from the use of the *Iodide.* This agent appears, moreover, according to Overbeck, to possess the property of acting upon the albumen of the blood, for in individuals poisoned with lead, or in those who have taken preparations of mercury, it is sometimes seen to determine the passage of albumen and of a larger quantity of lead or of mercury into the urine. Lancereaux, *A Treatise on Syphilis*, vol. ii, pp. 329—333.

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* The following is the passage alluded to:—"The aphthæ, stomatitis and angina produced by *Mercury* are the affections which most nearly resemble secondary ulcers of the bucco-pharyngeal mucous membrane. The aphthæ—the analogy of which to vesicular affections of the skin is such as to have induced Bateman to compare these lesions to eczema—form small, white ulcerations, which not unfrequently present slight excoriations, but the volume of which does not usually exceed that of a large pin's head. Moreover their duration is short, and they always heal rapidly. Mercurial stomatitis, by the odour it exhales, and the swelling of the gums it produces, cannot occasion any doubt. The same cannot be said of mercurial angina, a rare affection, no doubt, and generally though wrongly denied. In a paper on the diseases produced by *Mercury*, Colson already discussed mercurial ulcers of the pharynx, the characters of which resemble those of syphilitic ulcers. G. L. Dietrich does not hesitate to admit the existence of a mercurial pharyngitis, characterised by a mottled redness distributed in isolated patches, on which are seen, now and then, yellow, pisiform points, slightly ulcerated, due to the development of the mucous follicles."

## BOOKS RECEIVED.

*A Letter to Prof. A. B. Palmer, A.M., M.D., of the University of Michigan, being a Reply to his Four Lectures on Homœopathy*, by Dr. HEMPEL.

*The Birmingham Daily Post*, May 27, 1869.

*The Homœopathic Sun.*

*The Quebec Morning Chronicle*, May 22, 1869. [This paper has been forwarded to us by Dr. Bender in order to inform us that he has been expelled from the Quebec Medical Society for advertising himself as a homœopathic physician; but in this country, every medical society, homœopathic as well as allopathic, would expel a member for the mere act of advertising himself in the papers at all.—EDS.]

*The Monthly Homœopathic Review.*

*The Hahnemannian Monthly.*

*The American Homœopathic Observer.*

*The Chicago Medical Investigator.*

*The North American Journal of Homœopathy.*

*The Western Homœopathic Review.*

*The New England Medical Gazette.*

*Neue Zeitschrift für Hom. Klinik.*

*L'Art Médical.*

*Bulletin de la Société Homœopathique de France.*

*El Criterio Medico.*

*La Reforma Medica.*

*The Calcutta Journal of Medicine.*

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# FOLLICULAR LARYNGITIS.

By John Meyhoffer, M.D. Zurich; Lic. Chir. et Artis Obstetr., Zurich; Member of the Society of Natural Philosophy of Zurich.

*Follicular laryngitis* may also be termed *primary chronic laryngitis,* although it may have been observed sometimes in persons who have had several attacks of acute catarrh. But in these instances the follicular inflammation prepared, or even provoked the acute process, while it is rare to observe hypertrophied follicles in the lining of the larynx when the simple acute catarrh is passing on into a chronic course; hence glandular laryngitis is rarely met with in young people. It is, on the other hand, a matter of daily observation, that some individuals contract slowly, gradually, and insidiously, a chronic affection of the larynx, till at length certain functional disorders appear, which under ocular inspection of the larynx are betrayed as having their origin in the inflammation of the mucous follicles. This becomes still more manifest by considering that, even when the inflammatory process has involved the divers strata of the mucous tissue, it selects the parts where the follicles are imbedded in numerous clusters, and generally remains localised within the limits of the mucous glandulæ. It is *primary*, as it arises from determined conditions, which cause an excess of action of the follicles, and, consecutively, their inflammation; also while this morbid process has a primary and constant cause, which may be different in its nature, but identical in its effects, *i.e.* irritation of the follicles.

Almost all modern writers admit the existence of follicular laryngitis. Most of them describe it as in conjunction with follicular pharyngitis: some, again, separate it from other forms of chronic laryngitis, but abstain from giving in their descriptions characteristics, clearly distinctive symptoms, so as to establish it as a distinct morbid species, having but some non-essential phenomena in common with other affections of the larynx. It will, however, suffice to set forth the signs which characterise this unnatural condition, in order to show that the inflammation of the follicles deserves a particular place among this order of diseases.

*Etiology and Pathogenesis.*—Of all exciting causes, the most frequent is the exaggerated exertion of the voice. But it is necessary to discriminate, and a few physiological considerations, elementary though they be, will not be superfluous to elucidate the question at issue. The respiratory aperture is, in reality, the nose, and not the mouth; the latter co-operates in the respiratory function but exceptionally, and under certain conditions, particularly so in speaking. In the vocal act the air passes no more—or, at least, in but a small portion—through the sinuses of the nose, but traverses the short distance of the buccal cavity, and has neither the time nor the material condition to acquire a higher degree of temperature, or to get moistened by a longer contact with the mucous membrane. Hence cold and dry air strikes with force the pharynx and larynx, producing thus contraction of the capillaries and desiccation of the parts, the first predisposing condition to inflammation in public speakers. In conversation the phrases are generally short, and followed by rest and normal respiration; it is not the same with lecturing or singing in public. Persons thus occupied are obliged to enunciate long periods, following each other in rapid succession. After each long period a quick and ample inspiration is taken in at the mouth, and the air is thus precipitated into the larynx without having experienced any modification of temperature or density.

Thus it is easy to comprehend how the frequent repetition of this act must desiccate the pharyngo-laryngeal parts, and cause that sensation of dryness of which all orators complain, and that this desiccation will be the more rapid in proportion to the length of the speech and the *coldness* or dryness of the air. This arid condition of the mucous membrane calls forth an increased activity of the mucous glands destined to the lubrication of its surface; and, as each exaggerated secretion often repeated is a cause of hypertrophy of the organ, the follicles swell and enlarge.

What has just been said of orators is applicable *à fortiori* to singers, who are obliged to take more sudden inspirations and more prolonged and laboured expirations than the former. The follicles of the larynx are, however, not only solicited to increased secretion by the direct influence of the air; a mere mechanical cause also co-operates to exaggerate their functions. This cause is the combination of contractions of numerous muscles necessary to the production of sounds.

It is now an ascertained fact that the part of the vocal organ which takes an active share in phonation contains also the largest number of follicles; it is also the same which exhibits most often pathological alterations. Thick layers of follicles are imbedded in the mucous membrane, covering the arytenoid cartilages, and there is no part of the larynx called more frequently into action than these cartilages, their function being to approximate and expand the vocal cords.

In studying the mechanism of phonation on a healthy larynx, the vocal processes are seen to approximate at the moment of the emission of sound, and the vocal cords meet each other in the middle of the larynx. During the whole time of emission of sound the arytenoid cartilages compress between them the inter-arytenoid fold. The compression of the latter and the tension of the vocal cords increases with the intensity and highness of the sound, and stimulates, at the same time, in direct proportion the secretion of the mucous glands.

This shows us how the vocal apparatus when compelled to repeated and prolonged action engenders, under the combined influence of inhalation of cold air and muscular contraction, the hypertrophy of the arytenoïdean follicles. It occurs thus frequently that this agglomeration of follicles causes a considerable tumefaction of the mucous tissue which encloses them, the arytenoids seem enlarged; their approximation during phonation is neither so intimate nor so simultaneous as it ought to be in order to bring the vocal cords into immediate parallel contact, and this is what constitutes the beginning of the disease under our consideration; impossibility of emission of the high notes.

Before long the follicles of the other parts of the laryngeal lining participate in the same morbid process, and the nutrition of the whole mucous tissue experiences serious alterations.

We cannot leave this subject without calling the attention of the profession to the disastrous effects which inefficient professors of singing produce on the vocal organ of their pupils by their ignorance of the most elementary principles of the physiology of the larynx. Many of them, and those not the least in fashion, profess to transform a bass voice into a baritone, and a baritone into a tenor one. The absurdity of this pretence is easily demonstrated by the laryngoscope and simple daily observation; both prove that the compass of the register of the chest voice corresponds to the length of the vocal cords, and these latter depend in their turn on the length of the antero-posterior diameter of the larynx. In women the smallness of the larynx coincides with an extremely short register of chest notes; the larynx of tenors is less voluminous than that of bass voices; the register of chest notes in the first seldom composes two full octaves, while the greater development of the latter increases its power to two, and sometimes more octaves. Not a small number of beautiful voices have thus been for ever destroyed by those culpable practices, contrary to the natural laws of the organism, and inducing follicular inflammation.

The register of the chest voice of women has also been lately the object of blameable manœuvres, by forcing it to the emission of notes entirely belonging to the falsetto. As this cannot be attained without violent contractions of the vocal ligaments, their muscles become soon exhausted, and not seldom subjected to an unconquerable trembling, while at the same time the follicular parts of the mucous membrane get irritated and inflamed.

Another source of deterioration of the voice has been created by modern musical composers, whose works are more calculated for instruments, such as a violin or clarionet, than adapted to the human voice. They impose a strain on the vocal cords which overtasks their natural elasticity, soon exhausts it, and thus leads inevitably to chronic inflammation.

Next to exaggerated function of the vocal apparatus, local irritants, such as tobacco-smoke, alcoholic drinks, or spices, or the inspiration of chemical vapours, produce the same hypersecretion of the mucous glands; but the swelling of the follicles begins in these cases in the pharynx, whence it progresses downwards to the larynx. In some instances the enlarged follicles seem to be in connection with a herpetic origin.

Obs. 1.—E. K—, æt. 37, of good constitution, is lecturer on law at one of the German Universities. During the term he had to deliver lectures for two or three hours almost every day for the last six years. His father, still living, is healthy. His mother died in confinement, and one of his brothers sank under phthisis. In his youth he had whooping-cough, which left a great delicacy of the respiratory tubes, characterised by frequent catarrhal affections. However, his health became stronger, and he felt well till within the last three years, when he began to perceive a growing difficulty to fulfil his duties as lecturer. In reading to the students, a sensation of dryness and burning in the larynx obliged him to apply often to his glass of water. He felt soon exhausted, and gradually a nervousness ensued which subsided only after an hour or two's rest. Several cauterizations with nitrate of silver brought but momentary relief. The waters of Ems, which he took for two following summers, combined with rest, procured him some benefit. This was, however, but temporary, for as soon as he again began to read all the old symptoms returned, and he found himself obliged to apply for leave, and came to Nice in December, 1864. On the 17th of January we made the following observations:—The voice was not hoarse, neither was it quite clear, having evidently lost some of its sonority, as if something damped the emission of sounds. In the morning and evening voice husky, but after expectoration, or when he has breakfasted, this huskiness passes off. In speaking he is often obliged to *hem*, and brings up small, greyish lumps of mucus; in conversation the voice soon grows weak and husky. He complains of dryness in the larynx, and the least rawness of the air produces a sensation of burning in its passage through it; of extreme sensitiveness to the least wind or draught of air, while damp, rainy weather increases the morbid symptoms of the vocal organ. When he is heated, or enters a hot room, his voice turns hoarse; he is, however, able to vanquish this hoarseness in making a great effort to speak, but an intense feeling of dryness and burning rawness, and constrictive and increasing pain in the throat, accompanied by an irritating cough, soon oblige him to withdraw from conversation, otherwise he seldom coughs. The patient is very desponding, and thinks some hidden organic lesion is at work in his system, so that he will never again be able to resume his avocation. Physical exploration reveals no defects in the pectoral viscera; nutrition is not impaired; pressure on the cricoid cartilage causes sharp pain; the laryngeal mirror exhibits the arytenoids of a purplish colour, tumefied and granulated; some of the follicles discharge through their dilated aperture a greyish mucus; the inter-arytenoid fold swollen, and towards its upper border some follicular ulcerations, a few of them in a confluent condition; on requesting the patient to produce the sounds *a e, a a,* he is not able to raise them higher than one of the middle notes, and the approximation of the vocal cords is seen to be prevented by the swelling of the arytenoids, and the protrusion of the inter-arytenoid fold between the vocal processes; the lining of the lateral walls of the thyroid cartilage is moderately injected.

*Prescription.*—*Iodide of Potassium* 1, from 6 to 12 drops pro die. After a fortnight the sensations of dryness and burning in the larynx had much mended, the expectoration diminished, and the huskiness in the morning was almost gone; the local aspect showed less redness of the parts, and perhaps less swelling, otherwise no change. I applied now directly on the diseased parts with the laryngeal brush a solution of *Iodine* in glycerine—3 grains to the drachm—twice a week. After ten operations the arytenoids hap recovered their normal form; the ulcers on the inter-arytenoidean fold were healed, and its swelling reduced, so that nothing impeded the approximation of the vocal ligaments; every trace of granulation had disappeared. Two years since Professor K— was continuing to discharge his official duties.

Follicular inflammation of the arytenoids is one of the most frequent accidents to which persons are exposed whose living depends on the functions of the vocal apparatus. Next to them in frequency, the basis of the epiglottis is subject to a similar morbid process. With these points three functions are connected, two of which are of essential vital importance—respiration and deglutition: the third is relative, *i.e.* phonation. In these parts also vascularisation is the most abundant, the diameter of the mucous tissue the largest, and the follicles the most numerous;* while the structure of the vocal ligaments, whose phonetic functions are but passive, is more elementary, their mucous lining thin and void of glands, only richly pervaded by the sanguineous current; also their inflammation occurs as seldom as it does frequently with the former.

The results of post-mortem examination, published by Lewine,* (Rühle and Türck have only contributed to elucidate some minor anatomical points, and to confirm what the laryngeal mirror had already ascertained in numerous instances,) show the excretory ducts of the follicles, not only dilated by a profuse secretion, but also their apertures involved in a process of hypertrophy of the epithelial cells, in which, before long, the whole follicle participates; its orifice obstructed, the volume of the mucous gland is increased by the enclosed product of secretion and the hyperproduction of epithelium, forming thus a spheric protuberance on the surface of the mucous membrane, in size and form similar to the healthy granulations of a wound; these granulations in the larynx never attain to the volume of those in the pharynx. The capillaries which surround the follicles are in their turn dilated, sometimes ruptured, while at the same time the glandular aperture gets often eroded or ulcerated. That under these conditions the nutrition of the mucous membrane must be notably modified follows as a matter of course; still its thickening is, on the whole, but moderate and not to be confounded with that of plastic laryngitis.

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* Kölliker, *Handbuch der Gewebelehre des Menschen*, p. 451.

With these lesions of the arytenoids correspond also the functional deficiencies of the glottis; the swelling of the lining of these cartilages preventing the approximation of the vocal cords, the emission of sounds *above the middle notes becomes impossible,* however clear the voice may otherwise be. This symptom, negative as it is, is not the less one of the most important and characteristic: whenever it occurs without being complicated with hoarseness, follicular inflammation of the arytenoids will be found, in the great majority of instances, to be its proximate cause. As a rule the voice is not hoarse if the morbid process be limited to the vocal apophyses, and persons are sometimes so free from other laryngeal symptoms that, were it not for the impossibility of vocalising or emitting higher sounds and a certain want of purity in the voice, growing worse in conversation, they would not think about their larynx. Moreover, this affection shows little tendency to spread, and may remain some time stationary, if not irritated by phonation (rest is often the great secret of the good results arising from a residence in a watering place). It is, however, not usual that the phenomena of arytenoiditis follicularis are limited to the few vocal deficiencies just alluded to—the case of Professor K. is an evidence to the contrary; there is seldom a total absence of expectoration, and although moderate in quantity it becomes in its turn, by the frequent repetition of the *hem* which precedes it, a new source of irritation to the diseased parts, and thus in this case, as in many another, out of the symptom arises one more cause of the aggravation and permanence of the malady. The sensations of dryness and burning are very common symptoms, generally induced by the exertion of the voice. Local as the affection may remain, it predisposes the parts, nevertheless, to new inflammation, while recurrent catarrhal processes *often complicate* the original disease; the nutrition of the lining of the larynx gets altered, the phonetic functions gradually more impaired, and hoarseness, even aphonia, come to be concomitant symptoms of follicular laryngitis. As has been above observed, the basis of the epiglottis is, after the arytenoids, most frequently the seat of inflammation, and with it new symptoms arise, as will be seen in

OBS. 2.—An Irish lady, aged 22 years, a great amateur singer, underwent a tedious typhoid fever with slow convalescence, and in the following two years never recovered the previous quality and power of her contralto voice. Untimely efforts at vocalisation brought on by their repetition a short, dry cough, burning in the throat and larynx, increased by deglutition; before long the emission of the higher notes became an impossibility, while the lower ones became hollow and rough. Consultations of the authorities of Dublin and London were followed by scrupulous execution of the prescribed treatment, but with only temporary and indifferent effect. She came with her parents to Mentone, and remained under allopathic treatment there till the middle of March, 1863, when, finding no improvement in her state, she came to Nice and consulted me on the 20th of the same month. The patient has dark hair, with a fair skin, and looks healthy; her low mellow voice is clear when speaking in her usual subdued tone of conversation, but each deviation from the middle key, either in attempting higher or lower notes, exhibited the above-mentioned deficiencies of phonation, and was, moreover, attended by a short dry cough and sensation of burning in the larynx, the voice growing hoarse or failing entirely; the same was the case when she spoke for a long time in her usual tone, and then it required several hours, often days, of absolute rest before her voice returned to its usual level.

A feeling of burning and difficulty accompanied each act of deglutition, which, however, diminished in the progress of a meal. She has experienced for some time past a painful sensation about the throat early in the morning, which, however, wears gradually off after hawking and expectoration of lumpy mucus, while the great susceptibility of the throat to variations of the atmosphere forced the lady to take every precaution for its defence. The arches of the soft palate and the pharynx are injected, and several swollen follicles are grouped in a cluster on the latter, in the direction of the gullet. The pectoral and abdominal viscera offer no anomalous signs. *Prescrip.—Iodine* 6, 4 drops a day.

28th.—Deglutition a little easier, otherwise status idem. The laryngoscopic examination which had not been made previously showed the posterior part of the epiglottis inflamed and swollen, the cushion at its basis dark red, and so much enlarged as almost to hide the whole extent of the vocal ligaments, when the patient endeavoured to emit a sound; the lining of the arytenoids and the inter-arytenoid part of the larynx, the tubercula Wrisbergii and Santorini red, tumefied, and partly covered with a greyish mucus; the ligamenta-aryepiglottica and the ventricular bands richly injected. *Prescrip.—Kali hydriodat.* 2 gtt. ii, ter die.

April 15th.—The follicles in the throat much flatter, some of them scarcely perceptible, the swelling of the epiglottis, and particularly of its cushion, with that of the other inflamed parts much reduced, as well as less dark in colour. The same treatment was continued for another fortnight, but the progress of improvement did not correspond to that of the first two weeks. The local application of the solution of iodine in glycerine was then resorted to, and after seven repetitions of it a normal aspect of the lining of the larynx, the absence of the subjective morbid symptoms, with integrity of voice, formed together an evidence the more in favour of the topical use of medicines. We meet in this observation with two symptoms intimately connected with the physiology of the epiglottis, *i. e.*, burning in deglutition and hollowness of voice in the lower notes, of which the latter may serve as leader to a correct diagnosis where the laryngeal mirror for any reason cannot be used. The burning or other painful sensation at the beginning of the act of deglutition is only of a relative value as indicating a pathological lesion of the epiglottis, the throat being otherwise free from any morbid conditions, while, if it be felt towards the end of swallowing, it may also point out alteration of texture in the posterior wall of the larynx. The hollow-sounding voice in emitting the lower notes, when the middle ones are clear, is one of the most important signs of swelling of the posterior part of the epiglottis. On examining the share which this part of the larynx has in breathing and the emission of sounds in healthy persons, it soon becomes manifest that its duty is very limited during the process of calm and easy respiration, which consists only in a slight elevation by inspiration, and an inclination equally slight in expiration; these motions grow, however, more extensive in the acts of deep breathing and phonation. With the ascending gamut of the voice the distance between the cushion of the epiglottis and the insertion of the ventricular bands increases, hence the space over the rima glottidis is considerably enlarged—during the emission of low notes the inclination of the epiglottis is, on the contrary, so great as to exclude the vocal cords from view. Now, in case the cushion or laryngeal side of the epiglottis be swollen, the tumefaction exercises a compression on the glottis, and normal phonation finds not only an obstacle in the great inclination of the epiglottis, but also in the suspended elasticity of the vocal ligaments. Follicular inflammation and degeneration in its mildest form is of more serious import to the function of the vocal organ, and less amenable to treatment, than a simple chronic catarrh, though the voice in the latter affection appears to be much more impaired: when a voice otherwise clear in the middle key is incapacitated for the enunciation of high or low notes, the physician will do well not to lead his client to expect a too speedy recovery. Nevertheless, the treatment of recent cases of follicular laryngitis presents but seldom great difficulty, if the affection be not connected with a diathesis, and the medicines mentioned in the preceding article, particularly *Bichromate of Potash*, prove here also the most efficient agents. They seem, however, to stand no longer in a specific relation to the lesion, if the latter be of long standing, with the follicles considerably enlarged and ulcerated; at least this is our experience. *Iodine*, on the other hand, evinces a striking affinity to the follicular inflammation, and its exhibition has generally been attended with great satisfaction. We use it chiefly in the milder form of *Iodide of Potassium* (1st—3rd dilution) in combination wth its local application, which we consider as essential to a speedy recovery. At first we recommended inhalations—one drop of *Tincture of Iodine* to an ounce of water, but were soon compelled to abstain from this proceeding, as in several instances headache occurred after each inhalation; and we then took to applying instead the *Iodine directly* with a *brush;* since the adoption of this method we never observed pathogenetic symptoms from the use of this metalloid.

As long as follicular inflammation remains a local lesion, and is not connected with a constitutional predisposition, it presents no serious difficulties as to treatment. Although of a more unyielding character than simple chronic laryngeal catarrh, it is equally amenable to cure with the latter, by specific remedies, only it requires more time, and sometimes the unpleasant topical application of the medicinal agent. Much greater obstacles arise when the follicular alteration is grafted on a lymphatic or strumous constitution, which unfortunately is too often the remote cause of the lesion under consideration, as illustrated by—

OBS. 3.—The Rev. N. N., æt, 33, of healthy parents still living, applied himself to sustained mental labour previously to taking orders. Severe headaches frequently disturbed his studies, but these became permanent almost as soon as he had passed his examinations. For about two years this cephalalgy continued in greater or less degree, and for long afterwards the slightest mental exertion or bodily fatigue caused a severe relapse. He married, and for a time his health seemed to improve; however, after having exercised his ministry in a damp and relaxing county for not more than two years, he became subject to frequent loss of voice, accompanied by weakness so great as not only to prevent his preaching, but even reading the service. At the same time he grew extremely liable to catching cold, and before long a more or less permanent coryza, and frequent attacks of sore throat, accompanied occasionally by bronchial irritation, complicated the laryngeal affection. Meanwhile, his wife being ailing, he took her to consult one of the most competent men for female diseases, and availed himself of the opportunity thus afforded by consulting a specialist for himself also, who prescribed tannin inhalations and tonics, while his wife underwent a series of cauterisations. After six weeks of separation the husband and wife met again, the latter still affected by some discharge of whites; the first cohabitation was followed, in the husband's case, by inflammatory symptoms of the urethra, and a discharge like "gleet," which lasted nearly two months, gradually diminishing without treatment. In the following winter the Rev. N. was more than ever incapacitated from the performance of his duties by the laryngeal affection, and in the succeeding spring and summer he consulted physicians in Edinburgh and London, submitted in autumn to cauterisations of the larynx in Paris, and finally established his winter quarters at Nice, 1864-65, weary alike of doctors and medicines.

On the 1st of April, however, he desired our advice. We found a strongly built man with a deep chest and broad shoulders, but nevertheless lymphatic; great tendency to stoutness; a sickly, pale skin perspiring easily; muscles well developed, and covered with a thick panniculus adiposus.

Notwithstanding the firmness of the muscles, the patient complained of weakness and inability for muscular exertion, being often greatly depressed by a sensation of utter prostration; at other times he could walk several miles without fatigue, but breaks down when he least expects it; windy weather affects him very disagreeably. The headaches have lately been more frequent; he experiences inability for thinking, confusion and dull pain of the brain whenever his mind is bent on philosophical pursuits. Mental excitement or emotion sometimes induced a nervous attack with uncontrollable tears. The voice was not altered in speaking, but soon became rough and husky, unless cleared by a *hem*; reading aloud for more than ten minutes was sure to cause loss of voice, great nervous prostration, and profuse cold perspiration; he was unable either to raise his voice above the middle key, or to speak in deeper tones. In the first case the voice failed altogether, while in the second it sounded hoarse and muffled. Constant running at the nose, and in the morning frequent sneezing and incessant hawking for an hour or more, attended by the expectoration of a glutinous, stringy mucus; sensation of dryness in the throat and larynx were almost constant; deglutition sometimes painful. Local inspection exhibited the arches and whole of the pharynx red, swollen, and rugged, sprinkled with enlarged follicles; the inflammation extended through the posterior nares, over the entire Schneiderian membrane; all these parts more or less covered with grey yellowish mucus. The upper surface of the epiglottis was but slightly injected; its under one, and the cushion, dark, red, and swollen; the ary-epiglottidean fold thickened, and of the same colour; the arytenoids, and whole posterior part of the larynx, dark coloured, tumefied, with numerous granulations, and enlargement of some of the follicular ducts which were seen discharging a greyish mucus; the ventricular bands and lateral walls of the larynx exhibited considerable vascular dilatation. The motion of the epiglottis was very limited, and it required repeated trials for the emission of falsetto notes—as such an utter failure—in order to obtain a sufficient elevation of the epiglottis to disclose to view the above-described laryngeal parts. Lungs and heart were normal; pulse slow and feeble, 60 per minute. The appetite was fair, but soon satisfied, and after meals a sensation of fulness in the epigastrium; the patient was much troubled with flatulency; digested meat more easily than other food; bowels rather relaxed and easily acted on, sexual powers weak; urine pale, copious, cloudy, and depositing a thick white sediment, which the chemical test proved to be phosphate of lime and mucus; reaction feebly acid, but, decomposition being very rapid, it became alkaline not long after its emission. We prescribed *Phosphorus*. This substance was exhibited for three weeks; first in the low dilutions 3rd and 4th, but as they seemed to cause headache and great irritability the 30th was resorted to; at the same time cold sea baths of one minute every day were ordered. By April 24th a general improvement in nervous vitality was reported; mental and physical exertion had become less trying; the feeling of prostration, so frequent before, had for the last ten days no more occurred; the urine was clear, more acid, of higher specific gravity, and the phosphates in form of sediment had soon, after the use of the medicine, altogether subsided. *Prescrip.—Bromide of Potassium* ʒ gtt. ii ter die; sea baths to be continued. Under the influence of this salt a certain amelioration took place within a fortnight; the throat was less red and swollen; the discharge from the nose had considerably diminished; the laryngeal lining was less puffy, and of a lighter colour, while conversation did not so soon induce the previously almost constant clearing of the throat.

As the Rev. N. was on the eve of his departure, treatment was suspended, and the salt-brine springs of Oeynhausen* prescribed, to be used as baths and inhalation. He took thirty baths, and inhaled in the vapour-room from ten to twenty minutes a day for about three weeks, without internal use of the waters. He wrote towards the end of August from England, stating that he felt in better health than he had done for years, and therefore intended to resume his duties, and spend the winter at home. The following out of this plan would, beyond all doubt, have caused a relapse of the disease, the parts having been too long in a morbid condition to have acquired, in so short a time, sufficient vitality to sustain without injury the fatigue of his clerical duties. Fortunate, indeed, was it for him that he did not attempt it, as in spending the winter (1865-66) in Rome he had a slight relapse of his old complaint, which he acquainted me of by letter, asking me if he had not better return to Oeynhausen, to which, of course, I at once agreed. His second stay at that place lasted, however, but three weeks. He pursued the same course of treatment as before, returned directly home, and has since performed his duties uninterruptedly, and in a state of health hitherto unknown to him. Notwithstanding the powerful frame of the gentleman who furnished the material of the above observation, a constitutional deficiency of vitality was nevertheless manifested by the effects which mental exertion produced on the nervous system, by the great susceptibility of the mucous membrane and the delicacy of the skin, as well as by the imperfect and insufficient oxygenation of the blood, which to a certain degree may be attributable to the lymphatic constitution. With these premises the selection of the specific remedy and auxiliary physiological agents, was not difficult. The nervous depression, the inflammation of the lining of the respiratory passages, with the tendency to the formation of adipose tissue, pointed clearly to *Phosphorus*, while the weakness of the skin was best met by cold immersions, which not only increase the resistance of the capillaries, but also stimulate cutaneous circulation, and thereby oxygenation. This intensely active agent causes, however, not seldom pathogenetic phenomena, particularly headache when exhibited in low, sometimes even in high, dilutions. Under these circumstances we resort to the *Hypophosphites of Soda or Potassium*, which salts procure in low dilutions the same curative effects without the unpleasant ones of their basis.

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* Westphalia, railway station between Herford and Minden on the Berlin and Cologne line.

*Bromide of Potassium* comes next in similarity of action to *Phosphorus*, in so far as its influence on the nervous system, the heart and mucous membranes, is concerned. We have derived much satisfaction from its use in follicular pharyngo-laryngitis when *atony* was the predominant feature of the morbid process, while *Iodine* or *Iodide of Potassium* requires *irritation* as the leading symptom. There is but one voice among physicians who have had the opportunity of observing the effects of brine springs on strumous constitutions and scrofulous diseases, as to their powerful action in modifying the diathesis and their salutary influence on morbid processes, of which it is the primary cause. Their beneficial agency is, however, not limited to these aberrations from normal, healthy life, but extends over the multiform morbid manifestations to which acquired or hereditary diseases of the mucous surfaces lining the air passages and alimentary canal give rise. The brilliant results obtained " ex usu in morbis " by saline baths in these morbid conditions have, however, been explained, to a certain extent, by physiological experiments, of which the most exact and conclusive are those of Kaufmann* and Hoffnann.† From these it appears that the predominating action of the immersion of the body in brine water for 20 to 30 minutes, with a temperature of 86° to 90° F., is to accelerate the regressive metamorphosis: the kidneys act more freely, and the elimination of urates experiences, not only a relative, but an absolute augmentation. After the immersion a loss of weight in the body is one of the most constant phenomena; this is, however, more than counterbalanced by a greater consumption of nutritive elements, and the person increases in weight, notwithstanding the active moulting process which each bath actuates. These effects are due to the absorption of saline elements through the skin, which however is slow, and only manifested after the third or fourth bath by the increase of chlorides in the urine. This augumentation continues while the bathing experiment lasts, being more abundant on the days of immersion, while with the suspension of the baths the elimination of chlorides returns rapidly to the habitual mean. My own experience at Lavey (Switzerland) corroborates so far fully the above statements, but while Kaufmann observed a diminution in the frequency of the contraction of the heart, I, on the contrary, experienced an acceleration of the pulse when taking the bath at 86° or 90° F. Brine baths may, however, well be supported at 76° or 80° F., and, if they contain carbonic acid also, even much lower; in that case the bath may exercise a sedative influence on circulation. We say *may,* as there is a great variation according to individualities. One fact is, nevertheless, certain, that with the elevation of the temperature of the bath its stimulating property also increases; thus its action can be regulated at will. Hence brine baths, by accelerating organic disaggregation and assimilation, operate a powerfully renovating effect on weak invalids with a flaccid torpid skin, lymphatic or strumous constitution, slow circulation and atony in the functions of life. After five or six baths a decided change commences, the contractions of the heart grow more energetic, a more pressing sensation of hunger necessitates a richer supply of food, muscular action requires more power, congested tissues begin to show signs of returning contractility of the capillary walls, and the patients soon learn to expose themselves to atmospheric variations without the dread of catching cold. Excitable nervous temperaments are less fitted for this treatment, as it increases the irritability, the nights become restless, and the appetite soon fails under it. These symptoms may also occur when the bath is too warm or of too long duration; when it contains too large a proportion of lime; and, lastly, when after a certain number of baths the organism is saturated with chlorides. In the latter case the treatment should at once be suspended, and, in the former ones, modified according to circumstances. Brine springs are numerous in Germany, there are a few also in Switzerland, but only one of any importance in France (Salins, Jura). Their number facilitates the choice either as to locality, the circumstances of the persons, the peculiar nature of the springs, or the management and resources of the divers establishments.

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* *Die Wirkungen der Soolquellen von Durkheim.*

† *Bulletin de l'Académie.*

With regard to our patient we selected Oeynhausen for the following reasons:—1st. The temperature of the source is as high as 89° F., and can therefore be used without artificial heating, and thus the great quantity of carbonic acid (11″ to 16 oz. of water) contained in the water remains in the latter in its largest proportion; 2nd, a constant current can be maintained in the bath, so that the patient is immersed in a continual flow of saline water, in which his presence alone causes various currents so favorable to the setting free of the carbonic acid, which collects in numberless bubbles on the skin, producing a tingling pricking sensation, at first far from comfortable, thus increasing in no small degree the action of the bath; 3rd, Oeynhausen is provided with a room for inhalation, the atmosphere of which is not only impregnated with chlorides, but also contains a considerable proportion of carbonic acid. This atmosphere, after its primary short stimulating effect, exercises a peculiarly sedative influence on the congested surfaces of the throat and respiratory tubes; irritation and morbid secretion rapidly diminish; absorbed in suitable proportion it stimulates the heart and lungs to more vigorous contractions, proving thus often an excellent auxiliary in the treatment of laryngitis follicularis, and other chronic diseases of the respiratory organs.

The highly favorable results which have been obtained by inhalations and pharyngeal "douches" of pure carbonic acid in follicular pharyngo-laryngitis, for a long series of years in Germany, the costly edifices and appliances to which this method has given rise in several localities (Cannstadt, Carlsbad, Franzensbad, Kissingen, Marienbad, Meinberg, Nauheim, &c.), prove sufficiently its therapeutical value in diseases such as those we are considering. Combined at the same time with a saline atmosphere, the most inveterate follicular alteration will not resist its modifying power. Whenever we meet with follicular degeneration of long standing, where too often the usual remedies procure but a temporary relief, or leave us altogether in the lurch, we send the patient either to Nauheim, Kissingen, or Oeynhausen, and have never had reason to regret it.

Sometimes one season, of from four weeks to forty days, will suffice to obtain such a modification in the direction of health, that the recovery may then be achieved by the usual specifics; more often, however, two, often three, seasons are necessary, particularly for very strumous constitutions, in order to re-establish the harmony of the functions of life.

The springs of chloride of soda at Nauheim* have a great analogy with those of Oeynhausen, but the sources used for bathing have a higher temperature (Grosser Sprudel 96° F., Friederich Wilhelm 104° F.) and are, therefore, more exciting. Moreover, by the method existing there of increasing the degree of mineralisation in the bath by the admixture of brine, or its concentration known as "Nauheim salt," the action of the latter on the body is highly intensified. The Nauheim bath is, consequently, a most powerful stimulant, and best adapted to very torpid, sluggish, scrofulous constitutions. Rooms for the inhalation of carbonic gas are specially established and constructed for the treatment of diseases of the air passages, among which catarrh of the respiratory tubes and follicular inflammation of the throat and larynx derive the most benefit. With clergymen of sedentary habits follicular laryngitis is sometimes connected with, or complicated by, abdominal plethora or congestion, hæmorrhoids and enlargement of the liver; here the moderate internal use of the *Ragoczi*, at Kissingen, seconded by inhalations and brine baths, is the surest road to speedy recovery. Those who are unable to avail themselves of a residence at Kissingen can drink the *Ragoczi* at home for three or four weeks, from half a tumbler to two tumblers every morning, so as to produce *one* semiliquid motion daily. At the same time saline inhalations, sea baths, or artificial saline ones (prepared with unpurified sea salt from 2 to 8 pounds), greatly assist the favorable effect of the internal use of this spring (chlorides of soda and potassium). During this treatment fruit and acids must be avoided; carbonaceous food, beer and porter, have to be abstained from, not only during this course of proceeding, but in general.

Under such circumstances *Sulphur* and *Hepar Sulphuris* are the medicines on which we have learnt to place our reliance. We should also prescribe to this class of patients habitual muscular exercise as a matter of course.

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* About four miles from Frankfort-on-the-Mayne, on the railway line to *Cassel.*

Æsculus Hippocas. rendered us last winter great service in a case of pharyngo-laryngitis follicularis, with considerable catarrhal inflammation of the lining of the throat and larynx, complicated with piles and the most obstinate costiveness of long standing; it not only restored normal muscular contraction to the intestinal tube, but also greatly relieved the laryngeal irritation: cough and expectoration diminished rapidly, and the signs of congestion in the affected parts soon subsided under its influence. The granulations in the throat and larynx yielded, however, but slowly and only to a certain extent, to *Hepar. Sulph.*, and the inhalation of the vaporated "Eau de Challis" (a strong sulphureous spring in Savoy). It was only from the action of *Seleniate of Soda* ($Na^2SeO^4$), that the last traces of follicular swelling were obliterated. We are not able, as yet, to furnish positive indications for *Selenium* in laryngeal affections, but we have found it useful in the milder forms of follicular inflammation, and in the incipient stage of tuberculous laryngitis. This salt, in the third or sixth dilution, seems to us more active than triturations of the pure mineral or its higher potencies.

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# WHERE DO WE STAND? HOW CAN WE BEST PROMOTE THE SCIENTIFIC PROGRESS OF HOMŒOPATHY?

By C. Neidhard, M.D., of Philadelphia.

These questions have agitated my mind for a considerable time. I will endeavour to answer them.

Since the promulgation of homœopathy by Hahnemann, it has existed in the world for upwards of sixty years.

In every science it is expedient, from period to period, to take a retrospective view, and to ask the questions, Where do we stand? How can we best remove the obstacles standing in the way of its general adoption?

Before we advert to the differences of opinion with the old school, we must first examine the dissenting views on homœopathy in our own ranks, otherwise we could hardly estimate the objections of the old school.

All homœopathic physicians, of whatever school, agree that the law of homœopathy is a great truth, which has produced a revolution in medicine. There may be a few still calling themselves homœopathic physicians who have only partially adopted the homœopathic law, but as they evidently are eclectic, we shall either not regard them, or classify them with the old school.

The various views entertained by homœopathic physicians in explanation of the law I shall not here review, as they can have little influence on the practice.

Homœopathic physicians may be divided into three great classes:

I. Those who use exclusively in their practice the high dilutions; that is, the 200th and upwards. They regard these dilutions as a true augmentation of power, and thus defend them in their writings. They very seldom give a lower dilution than the 200th, and frequently give even higher ones. They also are in favour of the exclusive use of one medicine at a time, and that given at long intervals.

With regard to pathology, an able exponent of their views has lately declared that "the pathological state and the curative action of the remedy are two entirely separate and unrelated questions, which stand in no causal relation to each other whatever." According to this view, the study of pathology would be of little practical use for the cure of diseases.

This class of homœopathic physicians has been distinguished by great zeal in the cultivation of the materia medica; and to them we are indebted for nearly all the provings of new remedies. Their provings are generally conducted in the old Hahnemannian order, displaying great research in seeking the individualities of the remedies. Many practical hints we owe to these provings; still it cannot be denied that by the separation of the natural groups as they appear in the provings the connecting link of the various symptoms is often wanting.

II. The second class of homœopathic physicians are those who make exclusive use of the low dilutions, entirely denying the efficacy of the high. These physicians seldom prescribe above the 3rd dilution or trituration. They totally deny the dynamization of the remedies. They are frequently new converts from the old school, and after more experience adopt different views. They are not opposed to the alternation of remedies, and in desperate cases will not hesitate to blister or bleed, if this point should be considered necessary for the salvation of their patients. They entirely neglect the deeper study of the materia medica, and the characteristics of remedies, believing this doctrine to be arbitrary and not true in practice. These gentlemen often have a good old-school education, and are sometimes well versed in pathology. We seldom see their names among the provers of remedies. They often prescribe in their practice the remedies according to their clinical experience alone. A few of the ultra-Hahnemannians have sometimes spoken in a slighting tone of these physicians, but this did not mend the matter. Each homœopathic physician ought to respect the other's convictions. In their practice they profess to be more successful than the first class; whilst those using the high dilutions exclusively claim the same superiority for their practice.

III. The third class of homœopathic physicians—to which we do not hesitate to say that we belong—is composed of those who make exclusive use of no particular potency, but use them all, from the highest to the lowest, according to the nature of the case, and the susceptibility of the patient. They believe that the new ideas of the Physiological School will bring the chaos of our symptoms into better order, and a pathology based upon these views will aid us in defining more clearly the specific action of our remedies. At least, such is our hope. No isolation in medicine.

Every new discovery in one branch will aid the other, and *vice versâ*. In a subsequent part of this essay I shall give a practical illustration of my own views on this subject.

## HIGH AND LOW DILUTIONS.

### *High Dilutions.*

That very high dilutions of homœopathic remedies still exert a visible influence on disease cannot be denied by any one who has any experience on the subject. But unless it can be positively proved that diseases can be better and more promptly cured by them than by the lower dilutions, their exclusive use must be discountenanced, as it will open the door to the wildest speculations. This proof is still wanting. In fact, there is very little said about them by their friends. There certainly must be a termination to this progressive potentization. Some homœopathic physicians continue to exhibit the proper specifics in progressively higher and higher dilutions, as if they thought the higher the dilution the more powerful the action. Not satisfied with the 50,000th dilution, the 100,000th is now prescribed as being still more active. In former times there were many homœopathic physicians who would prescribe nothing but the 30th dilution. It was an abuse, no doubt, and presupposed a uniformity of the nature of diseases and constitutions which does not exist in reality. Now some prescribe nothing but the 200th. Are they any wiser? But what shall we say of those who maintain that after the 100,000th dilution there is still to be found the Mecca of a most wonderfully effective action? And these remedies are to be administered only once a month. If a relief should take place during the month, how can it possibly be ascribed to the remedy? for in a month many changes take place in a disease, even without the slightest medication.

Every homœopathic physician ought to have a store of these remedies on hand, in order to use them in appropriate cases; but to make use of them in every case, to the exclusion of the middle and lower preparations, seems to me a great error.

The air of the wide ocean, of the pine-woods, of the mountains, the miasmas of diseases like smallpox, cholera, yellow fever, come nearest to the intrinsic nature of the high potencies.

On the other hand, we have the mineral waters, whose great curative powers no one can deny, where the doses are much larger than even the lowest of our potencies.

In regard to my experience with higher, highest, and lower dilutions, I have to offer the following:

The higher and highest dilutions are more useful, (*a*) in all diseases of the brain, spine, and nervous system generally, as well as in all violent pains of various kinds; (*b*) in all sensitive persons of both sexes, particularly those who have never taken medicine of any kind; (*c*) as a general rule, diseases of the skin are more remediable by the highest, or at least higher, dilutions.

That there are many exceptions to these rules it were useless to assert. The susceptibility to medicinal action varies infinitely in different individuals.

A few examples will suffice.

First, with regard to brain, spine, and nervous system.

An old lady of leisure and wealth had for several years been subject to an unconquerable despondency and gloominess, amounting to despair; with an acid, raw, and strong taste in the mouth after breakfast; great debility. No particular cause of this state could be detected. *Sarsap.* 300 cured her. The lower dilutions always aggravated the case.

*Crotalus h.* 400 gradually cured a dull, heavy pain and heat over the eyes and sides of nose, with dull, pressing pain in back of ear, lightness of head in the open air, sickness of the stomach in the morning, and depression of spirits.

Without going into the details of the symptoms, which would only weary the reader, without answering the object I have in view in this essay, I will briefly say that *Phosphorus* 300 has cured cases with numbness and aches in the forehead, and weakness in sacral regions; that *Sulph.* 300 has cured cases with heat on top of head; and that *Calc. carb.* 2000 was given with decided benefit in a case with weight on top of head.

High dilutions also act wonderfully with chronic spine diseases, particularly what is called irritable spine—*e. g. Phosphorus* 200, or *Phosphoric acid,* burning and soreness between shoulders; *Petroleum* 300, pain in the spine and pain all over the body, with sciatica; *Staphysagria* 200, want of memory and heavy weight between the eyes. There are other symptoms besides those given, which I shall not mention here.

As examples of extreme susceptibility to remedial agents in high dilutions, I shall mention only three cases.

In a neuralgic affection of the eye the very sensitive lady felt every dose of *Calc. carb.* aggravate the pain.

In another case, where *Spigelia* was indicated, the 1000th dilution aggravated the pain in the head, although a cure was afterwards effected. A similar action took place in another case of neuralgia, when *Sepia* 2000 was prescribed. The effect was so evident and striking that it could not be attributed to any other cause. The most remarkable case of this kind is the following, which I shall transcribe in detail:

*Graphites* 3 aggravated a case of paralysis to such a degree that the patient became almost insane from the violent pains in the head, vertigo and blindness. The aching pain was most violent on the spot where the pain seemed to originate—namely, the medulla oblongata, where she had the pain from the beginning. *Graphites* was selected for the following symptoms, which were the more alarming, as her mother had died of the same disease, and my patient was already 65 years of age. *Symptoms.*—Numbness and deadness, with coldness of the fingers of both hands, extending as far as the middle of upper arm; a coldness and numbness of particularly the left, but also somewhat the right side of face; great vertigo and blindness, with immense prostration of strength; countenance pale and haggard, and for some time previous the patient had been very much emaciated, without any perceptible cause; both kidneys very sore, with ischuria.

As *Graphites* 3 had such a powerful effect on my patient, I prescribed for her the highest dilution in my possession—namely, the 2000th ; one small pilule dissolved in half a tumblerful of water, of which I directed her to take a teaspoonful.

Even this extremely small dose was yet too strong for her. It violently aggravated the pain in the medulla oblongata and left occiput, though in a somewhat less degree than the third trituration. The next day all symptoms had improved, and she was almost well. There was no return of the numbness in the arms.

We must, however, be careful not to ascribe every aggravation to the medicine; for in some cases where even the high dilution seemed to aggravate, the first dilution effected a cure. I saw this particularly with *Actæa racemosa* in rheumatic affections.

According to my programme, skin diseases are the next in order. In these I have seen high dilutions remarkably efficacious. I can particularly mention *Sepia,* from the 200th to the 2000th, and *Rhus vernix,* 200, 300, given at intervals of four to eight days, as powerfully efficacious in appropriate cases. Lower dilutions of these remedies often produced unnecessary aggravations.

Among those diseases in which high dilutions seem to be pre-eminently indicated there are many exceptions. I will give a few examples taken at random from my notebook.

### *Low Dilutions.*

The lower dilutions and more material preparations are more useful—(*a*) In all diseases of the mucous membrane, particularly of the bronchia and lungs. (*b*) All chronic diseases of the liver require the largest doses. (Knowledge of this fact has lately enabled me to cure some cases which were formerly considered incurable.) (*c*) Syphilitic diseases. I have never been able to cure these cases without the employment of the lower preparations.

There are many other diseases in which either high or low dilutions are preferable, but I shall not advert to them here, as the above are the most prominent.

Many cases, of course, have occurred in my practice where the highest dilutions of *Calc. ph.* have produced very little or no effect, while the lower preparations, even a trituration of $\frac{1}{2}$, have proved curative. In two or three of these cases pieces of decayed bone had already been ejected.

### (*a*) *Affections of the Mucous Membrane.*

I could mention a great number of lung affections for which the 200th dilution of *Kali hydriodicum* and *Calc. phosph.* were prescribed without benefit, but where the same remedies in more material doses were highly beneficial and curative. In many of these cases the *Kali hydriod.* was triturated with an equal quantity of sugar of milk, and thus exhibited.

In many very obstinate coughs *Phosph.* 30, and even 6, had no effect, while the *Spiritus Phosph.* proved immediately curative. The same was the case with *Bromine.*

In one case of involuntary discharge of urine from paralysis of the sphincter vesicæ the 6th dilution of *Gelsem. nitid.* did not cure, while the tincture of the same remedy effected a radical cure. *Cantharides* in the 6th and 2nd dilutions had only a transient beneficial effect in several cases of hæmaturia, while 6 drops of the tincture in water cured permanently. Other remedies, like *Sepia* and *Petroleum* 6, were also given without benefit. Some of these cases had been treated before by other homœopathic physicians.

Several cases of scrofulous ophthalmia were not at all relieved by *Conium* 30 and 6, but by the tincture in drop doses. The same was observed in several cases of inflammation of the eyes in which *Sulph.* 100 had no effect, but the *Tincture of Sulphur* cured.

### 6. *Liver Complaints.*

In several cases of chronic bilious headache of many years' standing *Iris versicolor* in the 30th, and afterwards the 3rd dilution, had always had an excellent effect. It after a while ceased to have any effect whatever, and the patient despaired of recovery. As the remedy was still very similar to the symptoms, it was determined to give still stronger doses, and accordingly it was prescribed in the 1st, and afterwards the tincture in drop doses. The effect was most gratifying and surprising, not only that the medicine did not aggravate, but cured more permanently and thoroughly than the dilutions had done before. The symptoms, as laid down on former occasions, are the following :—Stars before the eyes on rising suddenly from a recumbent position; aching in forehead, with nausea; yellow complexion, and yellowness of the sclerotica; sometimes yellow and mucous diarrhœa; numbness in right arm, also from the knee downward; menstruation slight.

I am convinced, by the experience of many cases, that in organic and functional derangements of the liver, the largest doses of our remedies are necessary, if we wish to make a permanent cure.

### (*c*) *Syphilitic Diseases.*

The question might now be asked: Why can high dilutions never cure deep-seated syphilitic diseases, if they are more powerful than the lower preparations ?

For chancre, according to my experience, even the 6th dilution of *Merc. solubilis*, or *Merc. precip. ruber*, acted very imperfectly compared to the 1st; and the high dilutions seemed to me entirely inactive. The benefit from the 1st trituration was immediately perceptible. This fact holds good in a still greater degree in gonorrhœa, where success could be obtained only by material doses. With so few symptoms as there are generally in gonorrhœa, the difficulty of selecting the proper specific is obvious.

The following case, as illustrating distinctly the more powerful action of the lower triturations, I will also quote here :—

Mr. J. G., æt. 88, had for several years been subject to a valvular disease of the heart, but had only of late consulted me, when the symptoms became so serious that he could not breathe. There was intermission of the pulse, great shortness of breath, and severe oppression, .with inability to lie on the left side. This oppression became so great that he could not lie down at all, but had to sit up all night in his chair. There now appeared after a time a dropsical swelling of the lower extremities, as far as the knee, so that his very large stockings had to be cut open. The serious nature of this case, considering his age, will be admitted. I commenced the treatment for the symptoms, and for pathological indications, with *Arsenicum* 30. He was very much relieved, but after a while it ceased to have any effect. The same was the case with *Arsen.* 6. *Arsenicum* 3 had a more decidedly beneficial effect, and for a longer period. It was only after the exhibition of *Arsen.* 2nd trituration, that the improvement lasted for a considerable time, and the swelling of the legs entirely subsided. He was also enabled to lie down on the left side. In a man of his age this can be only temporary, but it decidedly shows the superior action of the lower triturations.

According to my judgment the law on posology, with regard to doses, may be explained by the above case in the following manner :—

When the patient was treated at first he was very susceptible to the influence of even high dilutions. Gradually, as his health improved, he became less sensitive to them, and could bear larger doses without injurious consequences, and with continued benefit. By the time his health was almost entirely restored, and the *harmony of the system with surrounding nature had been established* (which is the aim of all true cures), we had nearly arrived at the original preparations, and a complete restoration to health was attained. In the same way all miasmas, stimulants, and foreign agents act, only in the one case health is the consequence, in the other disease. The law by which they act is precisely the same.

### *Alternation of Remedies.*

This is a contested subject. I would by no means advocate alternation as a general rule, but in individual cases we cannot dispense with it. The following is a case to the point:—A little girl was treated by us for pericarditis. She was very much relieved by the remedy, which was in this case *Arsenic.* In the mean time the measles broke out in the family, and my patient was attacked. This required a different remedy. As the pericarditis was of very serious import I did not wish to deprive her of the other remedy, and, therefore, remedies for the measles and the pericarditis were given in alternation with very happy effect, until she was entirely cured.

After having spoken of the differences of opinion among ourselves, we shall be better able to answer the question: Why has homœopathy not yet been generally adopted?

1. On account of the inertia of physicians, and human beings generally, to investigate new ideas. This cause can never be removed, but if the industrious physicians of the old school were to adopt the homœopathic practice and take the lead, then the others would naturally follow.

2. Because the small dose has been the great stumbling-block with all physicians. But for this *similia similibus* would finally be accepted. Many are already conditional believers in this great law.

3. The chief hindrance to the advance of homœopathy, in the ranks of the old school, are the innumerable symptoms of the materia medica, and the difficulty of finding the proper specific. Having all their lives striven mainly to find a pathological basis for a disease, this point of subjective symptoms will not be comprehended nor appreciated by them. We are fully convinced, that if this difficulty could be in a measure obviated, or partly removed, by the superior cultivation of our materia medica, the small dose would be easily accepted. They could see that much better cures are made by it, if definite, scientific rules for the selection of the remedy could be established. As this point is of the utmost importance for the general adoption of a

rational and enlightened homœopathic position, we shall consider it at length.

Let us be candid! Do we not all find great difficulty, in many cases, to discover the exact homœopathic remedy? Let us see what is the present state of the homœopathic position, and how it can be improved, so that it will be more and more beneficial to humanity.

The Hahnemannian position, and that of its great master's immediate followers, was about as follows:

Hahnemann strenuously recommended the most minute examination of the symptoms, with family history of the patient as to hereditary predisposition.

I remember that an inhabitant of the island of Jamaica once came to consult me. Among other things he mentioned that the most successful allopathic practitioner of that island was distinguished by his most minute investigation of disease. I told him that his great success was undoubtedly owing to that practice. Patient investigation and profound thought are absolutely necessary for the true understanding of disease. They are the first steps towards its successful treatment. The selection of the remedy is the next.

Before I proceed further, I must advert to a very common objection that has been made to this mode of examination, namely, that a physician following this Hahnemannian plan could not prescribe for more than six patients in a day. There is some truth in this objection. But a young physician, during his first years of practice, has seldom a great many patients. He can easily accustom himself to this minute examination of his cases, and the reward will come in due time. By following it for several years, he will gradually become familiar with the nature of disease. By the time his practice has become larger, this examination need not be carried to an undue length. A glance, a look, some leading questions, will put him at once *in medias res.*

The next step, as already mentioned, is to find the specific remedy. Hahnemann says the individual symptoms (eigenheitliche) must correspond to those of the disease. This is the exact truth.

I go a step further, driven to it by a long and sad experience. We cannot cure diseases without *rational* speculations about their cause and their pathology. Relying exclusively upon the symptoms will not be sufficient. In order to ascertain the value of symptoms three points must be considered:—

1. The actually present symptoms, with their conditions.
2. The pathological state, as far as it can be ascertained by auscultation and percussion, and by the discoveries of former post-mortem examinations when similar symptoms were present.

If Rokitansky has proved by his numerous and varied pathological examinations that when such and such symptoms or phenomena are present in a patient with chronic or acute diseases, they denote a certain pathological state or disease, we may rationally conclude that the same state exists during life, where such phenomena predominate, and by this early knowledge may be able to prevent a fatal issue. New discoveries, like the magnesium light, by which actual tumours have become visible in the interior of the body, if this fact is otherwise true, may also enable us to diagnosticate, and, consequently, cure more thoroughly.

3. Anamnesis—the history of the family predisposing the patient to any particular disease.

A consideration of these points with equal attention will enable us to obtain a true knowledge of the value of each symptom, and of the actual disease which the characteristic symptoms represent.

Some very able and distinguished homœopathic physicians, for whom I have the highest respect, still maintain the opposite view.

They teach that the " pathological state and the curative action of the remedy are two entirely separate and unrelated questions, which stand in no causal relation to each other whatever. If we wish to cure, we have to look deeper, not to the morbid products, but to those morbid changes which cause them."

We believe, on the contrary, that in many cases the changes of structure precede the manifestation of the external symptoms. The primary symptoms of several diseases are at first almost identical, and yet how different the cause! A common sore throat differs in its symptoms very little from a diphtheritic sore throat, and yet how different their pathological state and the treatment! When I look into the throat I see in one case intense redness; in another, bluish pale appearance; in a third, ulceration; in a fourth, white patches of diphtheritic deposit, and my treatment will be regulated by this appearance, and yet the external symptoms hardly differ at all.

In many cases of tuberculosis, as I have frequently observed, the disease exists for years in a dormant state before active symptoms appear. A simple cold at once develops the disease to a formidable extent.

The symptoms of smallpox before the eruption appears, and of some kinds of typhoid fever in their initiatory state, are almost identical.

By auscultation and percussion it is well known we are able to discover symptoms of pneumonia before any perceptible symptoms appear to denote the nature of the case. Objective as well as subjective symptoms must aid us in the selection of the remedy.

The same school, on the other hand, do not deny that there are objective symptoms which point out the curative remedy quite characteristically—these being mostly learned by practical experience, thus gainsaying what has been asserted before.

Let us suppose that this *practical experience* becomes more and more extensive, will we not be able to point out the curative remedy from all objective symptoms? With the advance of our knowledge of diseases, I think it will be discovered that the first glimmerings of a disease, represented by the morbid symptoms, will exist simultaneously with the structural changes. It is well known that the seeds of diseases are propagated from mother to child. In the Parisian foundling institutions tubercles have been discovered in the fœtus. The seeds of cancer, gout, scrofula, and tubercles, exist in the embryo. They remain in a dormant state for years, until developed by a cold, by passions, grief, and other causes.

These ideas are not new; others have made similar remarks. I shall quote what Dr. Elb, of Dresden, says on the same subject. His article has been translated by Dr. Hutchinson for the *British Journal.* First he says: "The need of a positive foundation is the more urgently demanded since, as already mentioned, the majority of homœopaths, and especially those who are not mere echoes, but men of independent minds, have been induced to reject many of Hahnemann's maxims, partly as non-essential, partly as injurious. Our way of regarding disease has also altered, and become harmonious with that of the latter school. We indeed acknowledge freely that the totality of the symptoms is the outwardly reflected picture of the internal disease, but must not the less express our belief that we can seldom content ourselves with any such picture, since we are in many cases able to apprehend the internal processes; that it is these we regard as the essential; that the reflected symptoms are very often deceptive, seeing that identical arrays of symptoms may be frequently occasioned by entirely different pathological conditions—a point of the greatest importance in therapeutics."

Further on he says: "We want to know the cause of the symptoms; we insist upon the diagnosis of drug action as much as on that of disease. The result of all this is, that Hahnemann's directions for the physiological proving of drugs, and still more his mode of arrangement, are utterly unsatisfactory in the present position of homœopathy. We must pointedly insist that all the auxiliaries of physical, microscopical, and chemical diagnosis are to be employed, and their results duly registered. We are of the firm opinion that, with the modern means of diagnosis, Hahnemann would have made something quite different of homœopathy; much strife within and without would have been spared us, and the position of homœopathy in medical science would never have been called in question."

Other physicians have expressed similar opinions, but we cannot lay hold of their words at present. It is certain that homœopathy will undergo a complete transformation in a few years, and be a more certain science. It will then be adopted by many scientific physicians who have hitherto kept aloof from it.

The absolute necessity of rational speculations about the causes of diseases can best be illustrated by examples. For this purpose I shall select appropriate diseases, affecting different organs. I will commence with diseases of the brain, lungs, and heart.

Tubercular meningitis cannot be distinguished from acute meningitis by the symptoms, nor from acute hydrocephalus. Very frequently hydrocephalus and tuberculous inflammation of the meninges occur in the same individual. It is by the anamnesis, by the examination of the family record alone, that we can discover the true nature of this affection. It is clear that the treatment of tuberculosis of the brain must be different from simple hydrocephalus or meningitis.

Tubercular meningitis, even if early discovered, is difficult but not impossible to cure. In its latter stages it is beyond the resources of art.

J. K—, æt. 19 months.—Father and mother both tuberculous. Patient disposed to recline the head backwards; sleeps with the eyes entirely shut; heat behind both ears, particularly the left; he puts the hand there frequently, he also bores with the fingers in the left ear; back part of tongue coated yellow, tip of tongue *red;* no appetite (after a few days' treatment the appetite became craving); vomiting of all food half an hour to an hour after eating; very thirsty, wants to drink all the time; bowels natural, occasionally greenish; pain before, during, and after passing water; urine dark yellowish colour; both feet swelled; emaciation of body. The vomiting was relieved by *Kreosote;* but by *Calc. phosph.* 2 and 1, corresponding to the pathology as well as to the symptoms, he was entirely cured. For the mere symptoms many other remedies might have been selected, but knowing from clinical experience and from proving on the healthy that the *Calc. phosph.* corresponded more to the tuberculosis of the brain in children than any other remedy, it was given. In more advanced life, when the lung is the seat of the tubercular diathesis, *Kali hydriod.* is oftener indicated.

In the following case the hydrocephalic symptoms predominated, and no tendency to tuberculosis could be discovered in either father or mother. They had already lost one child by hydrocephalus.

S—, æt. 5 months.—Sick ten days, first had summer complaint, after which gradually the hydrocephalic symptoms developed as follows: Sleeping with the eyes half open; constant reaching of the hands to the head, particularly on the left side; constant jerking of the head backwards; great heat in forehead; picking and boring of the nose, which is quite dry; constant disposition to retching, with occasional vomiting; smooth, shining tongue, bluish redness in the centre; hardly any appetite, but much thirst; constant fever and torpor.

He was entirely cured by *Helleborus* 1, aided by *Calc. ph.* 3. The nose soon after began to discharge; he took greater interest in surrounding objects.

The following two cases of chest disease will show the importance of tracing back the symptoms to their cause, and its influence upon the choice of the remedy.

The oppression met with in such cases may be owing to empyema, emphysema, diseases of the heart, hepatization of the lungs, tubercles, or bronchial catarrhs.

How different would be the treatment of these cases, although the mere subjective symptoms show only slight difference!

Mr. — had for years suffered from blood dyscrasia and affections of the brain, which finally terminated in hydrothorax and anasarca. Whether the former attending physician was cognizant of the nature of the case, I am not prepared to say. At any rate, his treatment was only palliative for the symptoms. He gave four remedies at the same time, although well known as an ultra high dilutionist and strict Hahnemannian. He left word to give one remedy if the flatulency was predominant, another if the oppression was great, and so on.

When I was called in to see him the oppression from the accumulation of water in the chest was so great that he was unable to lie down in bed without danger of suffocation. The pressure was in the centre and upper part of chest, more towards the right side. He was able to sleep only for one hour at night with the pillow very high, but felt better when lying on the sofa on an inclined plane. The difficulty of breathing was ameliorated when lying on the left side. He could not express his ideas for want of words, and was very much inclined to weep. Fluids choked him; violent palpitation of the heart, the heart beating in great circumference; the right hypochondrium and region of liver sore on motion and drinking; his complexion yellow; constant eructations of wind, particularly after eating, with great thirst; foul breath and want of appetite; and other symptoms which we shall not mention here, as the above are sufficient for our purpose.

I prescribed only one remedy, *Lactuca virosa,* which could not cure him, as the case was incurable, but which gave him great relief, because it acted on the fundamental cause, namely, the water in the chest. The breathing became easier, the water receded, and the patient was able to lie down.

Another case illustrating this point fell lately under my observation. It was that of a lady in the climacteric years. She was treated by her husband with domestic remedies for two months. The disease originated in a cold contracted at the sea-side. When I visited her she had been obliged to sit up for a month with the head bent forward. Percussion showed dulness of sound over the whole left lung, and part of the right. No respiratory murmur could be detected, and the sounds of the heart were muffled. On the slightest motion backwards a violent, short, barking cough ensued without any expectoration. The pulse was oppressed. Countenance showed great anxiety. Urine very scanty, and red.

The choice of the proper homœopathic remedy would, in this case, be very much influenced by the diagnosis—by the cause of the symptoms. The mere symptoms might be caused by various remedies, but in considering the cause our choice would be limited to certain definite remedies, such as the pathogenesis and practical experience had taught us were the most prominent.

Such remedies were *Kali hydriodicum*, *Digitalis*, *Apocyn. cannab.*, all of which were given in their turn, and were necessary for a complete cure.

There was a combination of lung disease with the dropsy, and one remedy was insufficient to subdue the whole disease.

With the most careful study of the symptoms, without tracing them to their source, the specific remedy could never be found, nor the patient be cured. The remedies were always in the lower dilutions, and the *Apocyn. can.* in the original tincture.

Another case from the pathological stand-point is the following:—Mrs. C. has for several years been subject to an annual cold, but this year (1867) it was worse than ever, characterised by the following symptoms: Constant yellowish-green discharges from the left eye and nostril, with a violent pain as if the eye was drawn out; incessant shooting pain from the eye to the temple; dry cough with tickling in the throat. This violent pain over the left eye to the temple, corresponding very nearly to the symptoms of *Spigelia*, it was prescribed, but produced only a palliative effect. After a more careful study, *Hepar* seemed to have the greatest affinity to the symptoms. This also relieved, but did not cure her. Upon a closer examination I found the left nostril covered with a white membrane, showing at once the cause and nature of that violent pain. *Chloride of lime* was now prescribed, and effected a perfect cure in the shortest time.

Another case, illustrating the same idea, is the following: A gentleman, æt. 60, suffered for years from an obstruction of the lachrymal duct, with an overflow of tears. *Petroleum* and *Calc. carb.* were prescribed with indifferent success. Finally, he had several operations performed on the eye by a skilful surgeon. The operations were successful, but gave only temporary relief.

Observing the pathology of the disease in his case to consist in a thickening of the membrane of the nasal duct, and partial ossification, the *Spir. silicæ* was prescribed twice a day internally, also externally applied. The improvement was soon visible, and an almost radical cure effected.*

The study of the causes of diseases and their material substrata in the pathological changes of the system, with the outward reflected symptoms, forms the basis of a true and radical treatment. The search for the remedy corresponding to these changes gives the other side of the picture.

External symptomatology cannot be the *sinè quâ non* of practical medicine for the following reasons:—

1. Because little children who cannot tell their symptoms have nevertheless as good a right to be cured as grown persons. We cure them by accurately observing visible phenomena; the expression of the countenance, of the eye; the state of the tongue, the throat; the motions of the hands; the position and motions of the head; the regularity or irregularity of their breathing, their craving appetite or want of it; their desire for, or aversion from, certain articles of food; the thirst, the smell, and taste, as well as touch of the skin; the nature of the discharges from the bowels and bladder. As the chest and abdominal symptoms are very important in children, palpitation, auscultation, and percussion will throw much light on the nature of the case. Finally, the hereditary predisposition to any disease must be regarded.

2. Because there is always a numerous host of persons who are unable to describe accurately their symptoms, but who require to be cured.

3. The whole dumb creation must also be cured homœopathically, although it cannot furnish us with a single subjective symptom. We do not know whether the pains are rending, tearing, shooting, or burning, but this we know: if certain tissues are attacked, certain kinds of pain will naturally ensue; *e. g.*, mucous membrane pains are distinguished by soreness and burning; the pains in the

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* Dr. Carl Müller, in the *Detroit Homœopathic Observer*, refers to two cases cured from pathological indications. One was a case of myalgia cured by Dr. Madden with *Cimicifuga racemosa*, the other a case of pneumonia cured by *Sulphur* from Dr. Wurmb's practice.

bones are gnawing; those in the muscles shooting, rending; the pains in the serous membranes are characterised by stitches. If we therefore discovered that a certain tissue is the seat of the disease, we may accurately define the nature of the pain.

There is another subject standing in very intimate relationship with these pathological studies of disease. It is the grouping of remedies and diseases. Here the labours of Brown-Séquard, Claude Bernard, and their disciples, can be used to the great advantage of the homœopathic school. With the assistance of Hahnemann's great materia medica, particularly his original provings, we can trace in those groups the particular nerves affected, and their reflex action in different parts of the body and the brain. The symptoms will thus reveal to us the functions which are disordered, and the especial tissue which is the seat of the disease. This will be a great labour, and will require studies of a very extended kind; but the homœopathic school is equal to the task. A few examples from practice will best illustrate my meaning:

Mrs. M., a lady who had passed the climacteric years, and was otherwise healthy, had for some time been subject to a tickling cough, with an oppression of the middle and right side of the chest, with a pain in the posterior part of the region of the liver. This pressure on the right side corresponded, anatomically, exactly to the spot where the nervi vagi and nervi sympathetici form the cardiac plexus, and where they connect with the cœliac. In the symptoms of *Lactuca virosa* this connection may be traced very accurately, and after being confirmed by other observers forms the basis of a more definite indication for the choice of this remedy.

Another case and remedy to illustrate the same point are the following:

Mrs. B. was confined two months and a half ago with a healthy baby, when she took cold, which caused a drawing, dragging pain in the right iliac region, evidently in the right ovary, shooting down from thence along the inside of the thigh and crural nerve to the knee. The pain intermitted every half hour to an hour, lasting some ten minutes each time, and was very severe. The passage of flatulency did not relieve the pain. After ineffectual trials with *Acon.*, *Apis mellif.*, *Bell.*, *Sepia*, and *Calc. carb.*, she was promptly relieved by *Podoph. pelt.* in water. The first dose produced a decided effect. I could trace this pain distinctly from the right ovary, through the internal spermatic nerve to the lumbar plexus, and from there along the anterior crural nerve to the knee. This remedy never failed in many other cases where the same symptoms prevailed. In one case the pain had existed for three months, with a beating and throbbing on the right ovary, and the same shooting down to the knee inside of the thigh. By a careful examination of the pathogenesis of *Podophyllum* we shall find these symptoms very accurately delineated. Having thus observed the action of the remedy in so many cases, I consider its action in this respect as fully established. Whether it would act equally well with pain on the left side I am not prepared to say, as I have never given it in such cases.

A case of a different kind, but of similar significance, is the following:—Mrs. W. had been treated by various allopathic and homœopathic physicians without relief. Several pronounced the disease cancer in the stomach on account of the pain which she constantly felt in the region of the stomach. She also complained of a constant sinking weakness in the same region, with aching pain and soreness to touch, with an anxious and troubled feeling in the head, and soreness in the stomach. There was also a sensation of weakness in the womb, but without the dragging down from the back to front, which usually accompanies prolapsus uteri. Nevertheless, upon examination, the uterus was found considerably prolapsed. As all remedies had been directed against the stomach, and as I considered the pain of the stomach only a reflex action from the uterus, I prescribed *Ferrum iodatum* (first mentioned by Dr. Bute, of Providence, R. I.) as an injection, and internally. In a short time not only the prolapsus, but also the pain in the stomach, were cured—the solar plexus being directly influenced by reflex action from the inferior hypogastric and anterior and posterior uterine plexuses of nerves.

These examples could be infinitely multiplied, as similar cases are of daily occurrence.

In mentioning the above cases I wished to show that we must study our cases in an anatomico-physiological point of view, trace the symptoms to the organ primarily affected, and to the particular nerve or nerves involved, with all their ramifications. We must do this also in our pathogenesis in proving remedies, as well as in our investigations of a case of disease.

At present we have to collect the groups of symptoms, which are intimately connected, from the different headings under which they appear in our repertories and materia medica. If the original provings of Hahnemann and his older disciples could be obtained, this labour might be obviated by consulting them. In future provings the consecutive action of the remedies must be retained, even if for convenience' sake a repertory is attached at the end. This necessity has been felt every day more by the homœopathic school.

In the proving of *Cinnabaris* by the students of the Homœopathic Medical College of Pennsylvania, an attempt was made to do this. In the systematic arrangement instituted by me the symptoms were retained in the order in which they were experienced by the prover. The importance of possessing a complete picture of each drug disease was undeniable.

In order not to be tedious, I will quote only one specimen of this proving, and that one of the best provers. The symptoms appeared in the following order: 1. Aching pain in the left hypochondrium in front over a space as large as may be covered by the hand, aggravated by moving about and in the open air. 2. Pain extending around the lower borders of the ribs behind, and in the region of the left kidney, where it seemed dull and somewhat oppressive. 3. Soon after this it appears in the right hypochondrium in front, and extends around to back and region of right kidney, where it is of the same character as in the left kidney. The dull pressure and pain are alternately first in the region of one kidney, then of the other. The pains intermit in severity, and those in the hypochondria are relieved by bending forward. 4. Occasional flashes of pain in the right temple, from the front backwards (organ of mirthfulness); soreness in roof of mouth; heaviness in the head; desire to sleep during the day; restlessness at night: indisposition to mental exertion. (The prover adds that the above symptoms appeared nearly, if not exactly, in the order given.)

Eleven provers out of nineteen distinctly state that the first symptoms commenced in other organs before the head symptoms appeared. As all have not been equally accurate, there may possibly be a still greater number.

As the symptoms of the remedies follow each other in their pathogenesis in a certain order, in the same way the symptoms from diseased action form distinct groups, varied according to the idiosyncrasy and constitution of the patient. Conditions of aggravation and improvement are very often produced by natural causes, and have nothing to do with the remedy. It behoves us to exercise a close scrutiny with regard to indications of this kind.

In the arrangement of our materia medica there are eight points to be considered. They are all given as hints. First, the selection of the remedy.

In surveying the whole field of the materia medica, I could discover no more than eight points of possible affinity between a remedy and disease which might guide us in the selection of the remedy. They are the following: 1. Chemical affinity: 2. Botanical affinity; 3. Colour; 4. Taste; 5. Smell; 6. Form; 7. Positive or negative electric force; 8. Inward nature, or dynamic action in confirmation of the others.

The mistake of the ancient writers consisted in the vain attempt to base the whole materia medica upon *one* of these affinities *alone,* instead of regarding all of them as merely illustrating the symptoms gained by trials on the healthy and by pure experience. What affinity or correspondence, for example, exists between a remedy of the same colour, taste, and chemical composition, and another which has one or several of the same characteristics? In what do they differ? In what points are they alike? It is evident that from a severe and thorough study of these and other points the most useful practical hints must be derived. That a substance is white, yellow, red, and has a certain smell, a bitter or acrid taste, or an exterior aspect of a peculiar kind, are considerations which must furnish practical indications, and bear reference to particular constitutions and diseases.

This subject is too extensive to be elucidated at the end of this article. It will, therefore, close here, first recapitulating the points which I wished to establish.

1. That those homœopathic physicians are probably nearest the truth who use in their practice all dilutions, from the highest to the lowest, according to the sensibility of the patient or the nature of the disease.

2. That high dilutions are more useful in diseases of the brain, nervous system, and all violent pains, as well as skin diseases; while the lower preparations are to be preferred in diseases of the mucous membrane, liver, and syphilitic diseases, &c.

3. That alternation of remedies, as a general rule, must be discountenanced, but can be defended in exceptional cases.

4. That for the purpose of promoting the extension of homœopathy, and its final universal adoption, pathological studies, based upon homœopathic principles, are indispensable.

5. That diseases can be cured without exclusive regard for subjective symptoms, because neither children nor dumb animals can express their symptoms, but nevertheless furnish the most splendid triumphs of homœopathic art. "Identical arrays of symptoms are frequently occasioned by entirely different pathological conditions."

6. We must enhance the value of the symptoms by a study of the history of the case, the hereditary predisposition, and by the help of the modern pathological and physiological discoveries. Rational speculations cannot be neglected.

7. That this deeper study of diseases necessitates a corresponding study of the pathogenesis in all its physiological relations.

8. That these studies can be aided (verified) by the sensible virtues of remedies. In this manner homœopathy may secure a foundation more indestructible than ever.

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# NOTES ON SOME FORMS OF PARALYSIS OCCURRING IN INFANCY, CHILDHOOD, AND YOUTH, AND ON THE PRINCIPLES OF TREATMENT FOR THE PREVENTION AND CURE OF PARALYTIC DEFORMITIES.

By Dr. Roth.

(*Continued from page* 308.)

## *Indications for the Treatment of Paralysis, and of the Deformities caused thereby in Infancy, Childhood and Youth.*

The indications vary according to the constitutional state of the patient, the causes, duration, combination, period of the complaint, and of the subsequent deformities.

As a general rule, sound hygienic instructions concerning air, food, drink, clothing, exercise, physical and mental education, form the first and most important prophylactics of all complaints during the growth of the human body. It is to be hoped that more attention will be paid to the study of these subjects, which are a very, perhaps the most, important part of any curative treatment.

Cachectic patients must be constitutionally improved if their paralysed limbs are to gain strength; rickets, scrofula, strumous, and other constitutional diseases are, as far as possible, to be cured.

Although often unable to remove the cause of the paralysis, we must, before a plan for the treatment is devised, try to find out whether the origin of the complaint is in the brain, spinal cord, or a peripheric nerve, or in any other organ.

The previous chapter on diagnosis will be sufficient to enable a careful observer to find out the character of the complaint.

The atrophic and localising paralysis, with its subsequent various deformities, has been placed at the head of this section, because the knowledge of the treatment of this form of paralysis might enable young practitioners, as well as those who cannot make paralysis a special study, to prevent many a contraction and deformity, and to arrest, as far as possible, the progressing atrophy of the various tissues; the study of this treatment will prevent the majority of most conscientious general practitioners from placing their patients under the care of such orthopædic surgeons as are always ready with the knife in hand for a tenotomy, even when the slightest improvement cannot result from such an operation. It will also prevent them from sending blindly their patients to orthopædic and anatomical instrument makers, who, like any other manufacturers wishing to get rid of their instruments and supporting apparatus, have a machine in stock for every deformity. As there are medical men who have no knowledge of the mechanism required in each individual case, the instrument maker applies the same instrument (which each maker considers as the height of perfection) indiscriminately, and without the knowledge of the individual complaint, to every case which is similar in appearance. Thus the little patient, with either the tendon of the healthy muscle cut, or with an instrument which should but does not cure, or with both cut tendon and instrument, is left to grow while the paralysed muscles continue to atrophy from want of the necessary and suitable means. There are exceptions in both orthopædic surgeons and instrument makers. It is with much pleasure that I refer to the first introducer of tenotomy into England, who with praiseworthy sincerity, during the last few years, has preached against the abuse of the operation he once very enthusiastically advocated. Professional men should never make use of the instruments of such makers as give consultations on their own account, or who do not carry out the instructions given to them.

We do not send our prescriptions to such dispensing chemists as prescribe on their own account, or do not give the medicines we wish. The same rule holds good with regard to orthopædic instruments. The remote cause of such a state is the ignorance in which medical students have been left by their teachers, who should give them at least an elementary knowledge of the cases in which tenotomy is necessary, and of the mechanism of an orthopædic instrument when required in a given case. I will finish these remarks with the following observations of Dr. Radcliffe and Dr. Handfield Jones:—" It is certain that in many cases very satisfactory results may be obtained *without tenotomy and without apparatus*, by means used with the view of bringing back power into the paralysed muscles. Electricity, movements of various kinds, shampooings and others; and my own experience has convinced me that the fact is not yet sufficiently recognised and acted upon."

"In all cases of paralytic rigidity or contraction *passive* movements of the limbs should be practised diligently. I have heard of very unexpected results thus being produced. Steady perseverance in this proceeding may enable us to dispense with division of tendons."—Dr. Handfield Jones, *Medical Times*, April 14, 1866.

### *Indications for the Treatment of Localised Infantile Paralysis.*

1. Those who believe that an extravasation or exudation takes place in the invasion of the disease, wish that means should be used for its absorption, and for the diminution of the pressure on the spinal cord, whilst those who believe that a state of weakness and a lower degree of nutrition of the spinal cord cause the paralytic symptoms, advocate tonics of all kinds, medicinal as well as hygienic ones.
2. To raise the temperature of the paralysed parts.
3. That the power of the will should be made use of as soon as possible, in order to influence dynamically the nerves, and to rouse the action of the paralysed muscles by the most

important functional stimulus of the will, which cannot be replaced by any other.

4. To arrest the constantly progressing atrophy as far as possible.

5. To prevent the contraction of the joints and retraction of the muscles, and, consequently, the various deformities caused by them.

6. To remove the contraction of the muscles, the retraction of the tendons, and the abnormal state of the joints where they have taken place.

7. When this result is obtained, to retain the natural position by all means at our disposal, and thus to prevent curvatures of the spine, deformities of the limbs, dislocation of joints, &c.

8. Every weak joint is to be individually treated, and all movements acting upon such joints are to be employed in a suitable manner.

9. Every group of paralysed muscles, or single muscle is specially to be attended.

10. Every weak part of the body, as a single limb, the neck or trunk to be specially taken care of.

11. If some improvement be obtained, several previously weak parts of one limb are to be induced to combine for the execution of a special movement, during which they are assisted by another person.

12. That during the progress of improvement two or more limbs should combine for action, either with or without simultaneous action of the trunk.

13. That as the patient improves, the same movement of the limbs should be tried in various positions, to begin with the lying and sitting; afterwards, while the trunk, or the legs only, are supported in forwards, backwards, and sideways, lying positions; later, full-, long-, half-sitting, half-kneeling, and balance standing; standing in stride, close, step, pass, and other positions are used.

14. That movements which at first appeared to the patient impossible, later only possible with external assistance, should afterwards be done by the patient's exertion alone, and finally even carried out while the patient slightly resisted.

15. To improve the power of sitting, kneeling, standing, walking, running, jumping, and all other movements ordinarily required in the daily occupations of life.

16. That supporting apparatus, crutches, sticks, or retentive contrivances, should be gradually removed, and only the indispensable ones retained.

### *Treatment of the (atrophic and localising) Infantile Paralysis.*

During the first or feverish stage the only chance there is, is to prevent the further progress of the disease, but unhappily the duration of the fever being very short, and the symptoms usually not observed, paralysis sets in suddenly, and only then is medical advice sought. Hitherto there has been no authentic case known where the regular and very serious course of the disease has been arrested in the first stage, as the cases of infantile paralysis reported as cured in the course of a few days have only been temporary or reflex paralysis, with abdominal or other functional derangement.

The old school recommends in the first stage antiphlogistic treatment, local depletion of blood on both sides of the spine, either by leeches, cupping, or scarification; mercurial frictions, cold compresses on the spine, tepid emollient baths; cooling purgatives, calomel in large doses, and, if any local irritation is believed to be the cause, lancing the gums, enemata, &c., are advised.

In all cases where an infant or child is feverish and very hot, it is desirable first to inquire what food it had taken, whether the functions of the intestines were regular, or if it had been exposed to a severe east or north wind, or had had a fall, or had been in any other way injured. To relieve fever and heat, every hour or two hours (according to the intensity of the symptoms) sponging the body all over, either with tepid or cold water, cold compresses on the top of the head and down over the forehead, so far that the eyes are covered, are useful; these compresses should be changed as soon as they are warm. During the first hour they should be changed frequently, afterwards not so often; if the bowels have not been relieved an enema of tepid water, or if this does not act, one with a little soap or salt mixed with the water are used. If the feet are cold, flannels dipped into hot water and well wrung out should be applied; the legs should be covered to above the knees; cold compresses and dry cupping on both sides of the spine, if there is any tenderness or pain; the cold compresses on the abdomen are changed only when very warm. Aconite in very small doses assists in the feverish state. Fresh cold water, alone, or with a little sugar and lemon juice, or barley or rice water sweetened (flavoured) in a similar manner, has been found the best drink in the feverish state.

As soon as the heat in the skin lessens, and traces of perspiration are apparent, all the cold water applications should be suspended, with the exception of the compresses on the head or spine, if these parts continue painful: no food should be given until the child repeatedly asks for it, and then it should only consist of milk, bread and milk, decoction of cocoa-nibs, stewed or baked apples, or prunes, and a small quantity of bread.

Convulsive fits produced by indigested food are removed by spontaneous vomiting, or this can be brought on satisfactorily by tickling the roof of the palate, by drinking warm water with some fat in it, or by a weak infusion of common chamomile flowers; only when these simple means fail recourse may be had to emetics. Exposure to cold also causes in children a feverish state, accompanied with perfectly white clayish stools, and tendency to vomit. Complete abstinence from food, and perfect rest in bed, soon removes this indisposition without calomel or purgatives; a drop of tincture of *Nux vomica* in water is also used every three hours.

Abstinence from animal food (with the exception of milk and one egg daily, regularity of meals, and proper attention to the skin during the period of dentition, moderate exercise in the open air and suitable clothing according to the seasons, are the most simple and most neglected means for preventing fits, fever, and other ailments in healthy children.

After a convulsion even of the slightest degree, or after any feverish state, infants and children should be minutely examined in order to lose no time in case of a sudden invasion of paralysis.

### *Treatment after the invasion of paralysis.*

Some authors believe that soon after paralysis has been observed, it is still possible to counteract the cause which, as they think, is extravasation, exudation in the spine, or congestion; for this reason, setons, moxa, active cautery, and the cauterisation with a red-hot iron wire applied to the paralysed part, are amongst the means recommended by the old school, to which must be added the external application of tincture of iodine, croton oil, flying blisters on the dorsal and lumbar part of the spine, inunctions of tartar emetic to produce irritation of the skin and to act as counter-stimulants and absorbents. Rosen's liniment, *Phosphor oil, Oleum animale Æthereum, Ammonia caustica, Spiritus formicarum, Tinctura cantharidis, Oleum æthereum Sinapis,* have been used externally along the spine, and similar means have also been applied to the paralysed parts to stimulate them to increased action. Internally *hydrochlorate of potass, Infusion of arnica flowers, and cod-liver oil* have been prescribed. *Nux vomica* and *Strychnine* have been used to such an extent that the characteristic electric shocks of the whole body have been observed without causing convulsive movements of the body or the paralysed limb; notwithstanding the simultaneous hypodermic and external use of the *Extractum Nucis vomicæ spirituosum* with alcohol, *Liquor ammoniæ causticus* on the spine and lower extremities in the majority of cases, and especially in the more intense forms of paralysis, no change in the power of motion could be observed (Heine). Dr. West has also been disappointed in the effects of *Strychnine* in the (*atrophic and localising*) infantile paralysis. *Quinine, Iron,* and *Arsenicum,* are recommended by those authors, who consider these the best tonics.

Amongst the mineral waters resorted to are mentioned

Bath and Buxton, Pfæffers, Wildbad in the Black Forest, Gastein in Austria, Abano in Italy, Pöstény in Hungary; the last two are well known by their natural deposits which are used either as mud-baths in which the paralysed limbs are immersed, or as cataplasms applied to the affected parts.

Also artificial mud-baths with iron as those of Marienbad and Franzensbad in Bohemia, baths with salt, gelatine, sulphur, malt, potass, formic acid, and pine-needles' decoction have been recommended.*

*Sesquichloride of Iron, Phosphorus, Arsenic, Bichloride of Mercury,* which last he believes to be antiseptic and tonic and analogous to arsenic, are prescribed by Dr. Radcliffe in congestion of the spine and myelitis, and as he believes that the atrophic localising infantile paralysis is similar to that of spinal congestion, I suppose the same medicines will be used by him. Brown-Séquard, who finds hyperæmia of the spinal cord in contradiction to Dr. Radcliffe's anæmia, recommends *Strychnia, Belladonna,* and *Secale cornutum,* and a position of the body on the abdomen or on the side with arms and feet hanging down, which is supposed to drain the blood from the spine.

"Various stimulants, both internal and external, have been resorted to and recommended by different authors. The Bath and Buxton waters internally and externally. *Rhus toxicodendron, Nux vomica, Arnica Montana, Raphanus rusticanus, Cantharides, Semen Sinapis, Opium, Valeriana, Camphor, Castor, Ether,* mineral acids, ammonia, lavender, blisters, the actual cautery, burning with moxa, galvanism, electricity, warm and cold bathing, friction, &c.; each of these remedies has been extolled by those who have treated upon their respective uses, and *each in its turn* has DISAPPOINTED THE expectations of those who have relied on its exclusive administration (Ward)."

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* *Antimony* in small doses continued for many months together, with purgatives and stimulating embrocations to the limbs, constitutes the best [?] treatment for [which ?] infantile paralysis.—*Holmes Coote.*

### Medicinal Treatment of various forms of Paralysis by the Physiological School.

The number of cases of so-called infantile paralysis reported is very scanty; I will therefore quote only, sub. I, the names of those medicines which in common with the old school have been recommended in the various stages and forms of paralysis; sub. II, those which are not or rarely recorded by the latter school.

I.

Arnica.
Argentum.
Arsenicum.
Bryonia.
Camphora.
China.
Cantharis.
Colchicum.
Cicuta.
Conium maculatum.
Helleborus niger.
Ipecacuanha.
Kali hydriodicum.
Nux vomica.
Oleander.
Pœonia.
Phosphorus.
Rhus toxicodendron.
Secale cornutum.
Sulphur.
Sulphuris hepar.
Veratrum.

II.

Anacardium.
Angustura.
Baryta carbonica.
Causticum.
Cocculus.
Calendula.
Carbo vegetabilis.
Cuprum.
Dulcamara.
Graphites.
Gelseminum.
Kali carbonicum.
Natrum muriaticum.
Nitric acid.
Platina.
Plumbum.
Sepia.
Silicea.
Staphysagria.
Strontianum.
Zincum.

### Domestic and Popular Means recommended for the Treatment of Paralysed and Atrophic Limbs.

"The rudest tribes of savages are found to have their remedies and modes of cure, often rash, violent and injudicious, though sometimes discriminated with precision and adapted with dexterity and skill" (N. Chapman).

### *Frictions.*

The ancients recommended in atrophy and paralysis of the limbs frictions with woollen cloth, as one of the most important means.

"In frictione spes plurimum consistit."—(*Paulus Ægineta.*)

Fomentations with warm sea-water.—(*Celsus.*)

Rubbing with cloth impregnated with the smoke of sugar, mastic (*Taxus baccata*) or moistened with warm brandy.

Rubbing with horse-radish and the common black radish (*Raphanus rusticanus*) shampooing or kneading the limbs, and rubbing them with the lather of soap as used in the Persian, Turkish and Eastern baths. (Sir R. K. Porter, *Travels in Georgia, Persia.*)

Flagellation, rubbing, and percussion with dry birch rods with their leaves slit or steeped in a lather of soap. The same operations with a bundle of fresh nettles.

To cover the paralysed limb with cataplasms of warm solution of potash and of fresh heaps of ants.

To bathe in the sediment left after distillation of brandy, to expose the limb to the vapour of brandy yeast, produced by placing pieces of red-hot iron into a vessel filled with the brandy yeast.

To bathe in infusion of thymus serpillum, in decoction of the cones of pine trees, in decoction of bran mixed with mustard and salt, in warm bulls' or of calves' feet and heads of sheep, in an infusion of ants (formica); a bag is filled with the heap of earth containing the ants, hot water poured over it and the limb bathed in it.

To cover the part with hair or cat-skin, with oiled silk.

Boerhave observed a quack curing in many instances paralysed limbs, and finally found out that he used the pulp of horse-radish, which he applied to the part and covered with a hog's-bladder; a scarcely bearable pain was caused and relieved by butter; afterwards a cure was frequently performed.*

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* "Empiricus quidam curam omnium paralysium suscipiens applicabat semper unum remedium cujus effectus erat dolor intolerabilis; ægri ejulabant ac si

The sediment of wine is frequently used in France and Hungary as a stimulating embrocation; also stimulating and tonic baths, with salt, iron, sulphur, seaweeds, steam douches, are recommended as well as a mild hydrotherapeutic treatment.

The great effects of so-called animal baths are often mentioned, they are used by immersing the paralysed limbs into the still warm blood of the animal as soon as it is slaughtered, or the half-digested contents of the stomach of the herbivora are used; the natural warmth of the blood and the gastric juice as well as the half-digested gramina are believed to have great power in restoring the loss of power.

Amongst the applications of animal heat, I find the prolonged immersion, even for hours, of the limb in warm blood of an ox which has just been killed, or into the stomach of a sheep or ox immediately after it had been slaughtered. A dove divided into two halves is applied to the affected part while it still retains its animal heat, also the still warm skins of hares, rabbits, cats, immediately after being killed, have been used for a similar purpose.

### *Electricity.*

*Electricity* is considered by many as a specific. Duchenne declares that all infantile paralyses where the electro-contractility has been only diminished, have been cured completely and tolerably quickly without atrophy and deformity, when Faradisation has been applied a few months after the invasion of paralysis (*Electricité Localiseé,* p. 298). It is probable that these cases have been only reflex and temporary paralysis, which recover frequently without any treatment.

Duchenne's (to whose assiduity and genius electro-physiology owes so much) belief with regard to the power of electricity is so transcendent that he considers it to be able to create a muscle. These are his own words. "The fatty substitution is often very irregular, as proved by electro-muscular and microscopic examinations. In such cases the *healthy muscular* fibre can become the nucleus of *new* mus-

locus carbone pestilentiali inureretur; dolore per butyrum sedato sæpe sanatio."—Boerhave, *Prælect. de morbis nervor.*, 1761.

cular fibres, and even of *a new muscle* under the influence of localised Faradisation."*

Surely Faraday never dreamt that his induced current would be the generator of new muscle. This belief in new fabrication of muscle is based on the following case of partial paralysis, in which the majority of the muscles of an arm was atrophied; for two years Faradisation was continued in combination with localised gymnastic movements according to Ling's system. The fibres of the internal part of the anterior third of the deltoid which contracted by electric excitation changed to as many fascicles, which by degrees increased in volume; afterwards other fibres appeared in the anterior half of the muscle and became centres of new muscular fascicles, but *none appeared in the posterior half.*—Duchenne, p. 305, l. c.

Duchenne makes use of Faraday and Ling as the progenitors of a new muscle, but gives credit *only* to Faraday. Is this right? Why does Ling not share in this triumph? This case proves that the anterior half of the deltoid was in appearance entirely, but in reality not to such a complete extent atrophied as not to be influenced by Faradisation and (as Dr. Radcliffe calls it) Lingism. How does Duchenne explain that the posterior half of the deltoideus was not *newly fabricated?* To what extent even such an accomplished observer as Duchenne can be misled, when his attention is directed to one subject only, will be seen by the following:

"Should even all hope of saving the muscles from complete destruction be lost, Faradisation will still be useful, and in certain cases be necessary to the development of the bony (osseous) system." He believes that the shortening of bones, which amounted in some cases to from six to eight centimetres, was reduced by Faradisation to two or three centimetres. He appears not to have had an opportunity for observing that shortening of bones does not always occur even in very severe cases of atrophic paralysis, without any application of Faradisation or Lingism. Amongst the cases which came under my notice, no cause could be either found for diminution of the length of a femur, tibia, or of all the bones of a foot, nor for the normal length of these bones, although the degree of atrophy and paralysis was not different.

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* The original, l. c. p. 303. Dans ces cas la fibre musculaire saine peut devenir le noyeau de nouveaux faisceaux musculaires et même d'un *nouveau muscle* sous l'influence de la faradisation localisée.

Laborde quotes a case of a child with paralysis and atrophy of both legs; in the right the complaint was more developed with the beginning of a club foot on that side, to which Faradisation was applied for a whole year either by himself or by one of the externs, without any visible amelioration. I know of two cases who, for the sake of daily electric treatment, have been staying with a London surgeon and electric specialist for a whole year, both of whom are still more or less atrophied. One, a boy with the tibia considerably shortened; the other a girl eleven years old, from Manchester, about whom I was consulted in March, 1869. She was paralysed when two years old, and has lost completely the use of one lower extremity; she was under electric treatment for several years, partly in England, and again in Germany, and under the care of eminent physicians, without any visible amelioration in the nutrition of the paralysed muscles. In the last-named case the parents have for the last four years engaged a female attendant, who daily for two hours manipulates the affected part, and applies, as far as she has been instructed, active and passive movements to the paralysed limb. The parents ascribe all the improvement hitherto gained to these active and passive movements.

Before finishing this paragraph on the value of Faradisation, I will add another case where Duchenne himself has applied it for *two* years, and where it has not even arrested the progress of the disease.

"The boy Philipot was sixteen months old, in perfect health, and began to walk, when, without any known cause, his limbs were paralysed. For eight or ten days before the invasion of paralysis he had a slight fever. The localisation took place in the lower extremities and afterwards only in the right leg; the foot turned inwards and the toes were directed downwards (equinus varus). Notwithstanding the *two* years of tonic and electric treatment under Duchenne, the progress of the disease was not arrested; three years have passed since the boy was paralysed; his right lower extremity is completely powerless; the paralysis affects especially the abductors and flexors of the foot; his club foot is an equinus varus developed to such a degree that the equinus forms a right angle; external force is insufficient to replace the foot in the normal state. The resistance of the posterior muscles of the leg is extreme. Reflex movements exist partly; no voluntary movements except flexion of the toes. The atrophy of the paralysed limb is considerable, and the size of the muscles is reduced to such an extent that the circumference of this leg is only one half of that of the healthy one. When touched the atrophied muscles are particularly flabby and flaccid. The bones are similarly reduced in size; it is easy to see that the right knee pan is one half the size of the left; the articular ends are likewise reduced. The muscles of the thigh are also atrophied. The right leg is one centimetre and a half shorter, which causes much limping whilst the child walks, which he does with trouble, and whilst throwing—if we may use the term—his leg by the action of the crural muscles.

"The temperature of this limb is very notably lowered, and the colour is slightly cyanotic, the child complains of cold, and the mother, who has observed this for a very long time, tries to lessen it by two or three pairs of woollen stockings."*

These cases prove sufficiently that there is no reason for placing such a high trust in Faradisation, and that it is neither a specific and scarcely a more powerful stimulant than the other means which have been externally used. It has the one and great advantage of permitting the local application on a single group, or even a single muscle. I am sorry to say that I have seen in numerous cases the application of electricity left to the tender mercies of an ignorant nurse, because the medical men prescribing electricity do not know much of the scientific application of localised electricity; it is at present still the general practice to inflict on the little patient as many electric tortures as he can bear.

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* Observ. 50, Laborde, p. 217.

At present a boy eight years old, whose legs are seen in Fig. 16, is under my care, who was Faradised during eight months three times a day for fifteen minutes; later, ten, five, and three minutes; there was not the slightest improvement in nutrition or power of the leg. In some cases more expensive galvanic apparatus (constantly advertised by the manufacturers as the great remedy in paralysis) are used in a rough manner, either by placing one pole in the hand, and the other in a foot pan filled with water in which the foot is placed. Sometimes one pole is placed on the nape of the neck and the other on the affected limb. Galvanic chains with the continued current cause frequently at their poles a burning sensation, and at present a case with the scars produced by the electric cauterisation of these chains is under my care.

The really paralysed and atrophied muscles in children affected by the a. l. i. paralysis are very seldom influenced by electricity, neither by Faradisation nor by galvanic and continued currents, nor by statical electricity.

Although it cannot be denied that electricity in one or another form has been of some use in some forms of infantile paralysis, we have not yet precise data which are the so-called *proper* cases for application; notwithstanding my sincere wish to benefit my patients by any means, I cannot conscientiously say that I have seen any remarkable effects from electricity in the a. l. i. paralysis.

When electricity is used it should be applied locally on each single muscle or on the trunk of the nerve supplying a certain group of muscles; while the electric contraction takes place it is desirable to induce the patient to keep up the contraction by his will; my object in such a case is to bring the dynamic stimulus of the will to bear on the paralysed muscle. After the will had a slight influence on the paralysed muscles I have found in a few cases that Faradisation helped to recover the contractility of the muscle much quicker.

"*Electricity* is another remedy from which you may naturally anticipate much good; but the results which I *have* obtained from its use have, on the whole, disappointed me; often pain is caused without any or only temporary improvement. But though you must not be too sanguine in your expectation of good, electricity is one of the means that must not be left untried" (West, Heine). "As to the use of electricity which is now much in vogue I feel satisfied as the results of a large experience that it requires to be used with much caution. I have seen cases in which after the employment of electricity for some time that agent has apparently brought on pain in the head, and has elicited something like an inflammatory process in the brain" (Todd, in *Lectures on Paralysis and Diseases of the Brain*).

"In a few cases paralysed muscles which do not react to the most powerful induced currents, react energetically to a galvanic current of low tension slowly interrupted. This has been observed in facial palsy, in certain cases of infantile paralysis, and of local palsy, as in lead palsy of the extensors of the forearm and of other muscles, in paralysis of the deltoid, not from lead, in certain cases of muscular atrophy and in paralysis from traumatic injury of a nerve.

"Baierlacher and Bruckner in Germany, Hammond in New York, and Mr. N. Radcliffe, of London, have called attention to this fact" (Radcliffe). There is also an important objection to the application of Faradisation in infants, which is, that it causes great pain; it is not merely a strange sensation ("sensation étrange," Duchenne) which induces the little patients to shout, scream, cry and struggle, in order to escape the electric application. Only such children as are less sensitive, or can be induced by sweets and little presents to bear the pain, will be able to be regularly treated by electricity (Laborde).

Like any other stimulus, electricity can exhaust the vital powers of the part on which it acts too long or too violently; it is a known fact that the prolonged action of a *continuous current*, whatever may be the direction, is to render the nerve incapable of transmitting the action, and this power returns only when it is allowed to rest, or if acted upon by a current guided in a contrary direction to a current moving in the same direction; the action of the close continued current on the motor nerves differs according to the degree of intensity of the current.

Dr. Remak, of Berlin, has proved that all groups of muscles are brought into a state of tonic contraction by a continuous current acting on the motor nerve which animates them; he has also mentioned the wonderful anti-paralytic effects to be expected from the continuous current; in paralytic affections it is the practice to apply the induced current (Faradism) to a single muscle, and if the whole substance is to be brought into a state of contraction the electrodes are applied at the two ends of the muscle. It is believed that this artificial contraction and extension is a powerful agent for preventing the progress of atrophy; increase of heat is also proportional to the force of contraction and the length of time it continues; the difference of the increase of temperature in the skin covering the electrified muscles from the temperature of the surrounding parts amounts according to some authors to 5—6° Fahr., and the cooling takes place slowly and regularly, especially when the part is not exposed to the air. Dr. Remak's assertions regarding the effects of continuous currents were at first not confirmed by his experiments in France. But lately data have been made known that the continuous current applied at the two ends of the spine have caused not only arrest, but a cure of what has hitherto been called the *progressive* muscular atrophy: there are not yet any facts proving that in the atrophic forms of infantile paralysis the continuous current is of any use, excepting slightly raising the temperature during its application. Galvanic acupuncture and static electricity have been also frequently resorted to in paralytic affections, and when the body was impregnated with the electric fluid, sparks have been elicited from the spine and the paralysed parts.

No positive rules regarding the direction, intensity, quality of the current, the duration and repetition of its application have been given even by the most sanguine advocates of electricity and electric specialists; but they still agree that a single application should not exceed five to fifteen minutes, and that in wasting palsy, or in cases of advanced atrophy, a very large number of operations must be performed before the disease can be arrested.*

### THE MOVEMENT CURE, OR MEDICAL GYMNASTICS.

### *Active and Passive Gymnastics.*

There is not another more important means for restoring the power of paralysed muscles than to let them systematically and regularly be treated by exercise. In a word, gymnastics prove themselves to the fullest advantage, but it is necessary to restrict their use, which has not been sufficiently thought of by authors who advocate them in this complaint. (Laborde.)

### *Frictions.*

The manipulation of rubbing in various ways and directions on the surface of the body either with the hand or the fingers is called friction; the same term is also used when the manipulation is done with linen or woollen cloths, flannels, felt brushes and other materials and instruments.

Frictions act on the skin, muscles, joints, nerves, or vessels; this depends upon the manner in which they are applied; with the tips of the fingers, or with the internal surface of all the fingers simultaneously, with the palm of the hand or the whole hand: further, upon the amount of power and pressure used in these manipulations in which either one or both hands alternately are engaged.

Without reference to any substance used, friction itself is mentioned by all authors to be of the greatest importance; they say that the stagnant and slow circulation (which contributes very much to the progress of atrophy) is improved; that by preventing the stagnation of the blood, and by raising the temperature of the cold parts, it counteracts the incessant progress of the atrophy and changes the abnormal state of nutrition. Dry friction with the hand only or with hair and so-called electric brushes (these last made of vulcanised india rubber), with coarse flannel, exert not only a mechanical effect of stimulating the capillaries of the skin and minute ramifications of the cutaneous nerves, but they produce an electric process in the skin, and as the epidermis is idio-electric, it is a bad conductor of the electric fluid. In proportion to the amount of dryness of the skin and of the hand or material applied for rubbing, the quantity of electricity increases, the action of the nerves is more eliminated, the vigour, vitality and circulation of the skin is raised and the nutrition improved. Moist frictions do not produce much electricity, and this does not accumulate, but is absorbed.

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* Further information on medical electricity is to be found in the works of Duchenne, Remak, Lehnhardt, Siemens, Tripier, Althaus, &c.

Frictions with fatty and oily substances are called inunctions, and these were used by the ancients—at present olive oil, butter, and lard are mostly used either in small quantities with the intention of preventing the chafing of the skin, or in larger quantities with the intention of having them absorbed by the skin.

"Rubbing can bind and loosen; can make flesh and cause parts to waste. Hard rubbing binds; soft rubbing loosens; much rubbing causes parts to waste; moderate rubbing makes them grow" (Hippocrates). That a simple operation, which, notwithstanding the various methods of its execution, its combinations with other passive manipulations, and various medicinal substances, which has been indiscriminately designated by the name of rubbing, friction, shampooing, massage, or lately the *anatriptic* art, has always had its enthusiastic advocates amongst laymen as well as medical men, need not surprise. Like all enthusiasts they professed to cure complaints of all kinds, whether chronic or acute, paralysis, deformities, curvatures, tumours, sprains, fractures, dislocations, and a host of others; thus rubbing became a universal medium indiscriminately applied by the ignorant and uneducated, who frequently and justly boast of cures where eminent professional men have failed.

My younger colleagues will therefore do well to take the hint, and try to learn something about friction, its physiological and curative effect; thus, in a suitable case they will be able to give to the attendants and nurses the necessary instruction regarding the duration and the method of this operation; further, they will instruct them that the friction should be done in the direction of the afflux or reflux of the blood, or the efferent or afferent nerves, or on a special vessel, nerve, muscle, or joint, according to the effect they wish to produce; at any rate they will have the advantage not to be laughed at by a so-called professional rubber. As this is not the place for writing a treatise on friction, I give a list of a few works on this subject, which has always attracted the attention of medical men.

Adolphi, *De frictione.* Lips., 1707.

Dillen, *Frictionis usus medico-practicus.* Giess., 1714.

Wilkens, *Frictionum utilitas in medicina.* Lugd. Bat., 1716.

Vasse, *An frictus sit salutaris.* Paris, 1722.

Waldschmid, *De usu frictionum in medicina.* 1723.

Luther, *De usu frictionum in medicina.* Kilon., 1725.

Loelhæffel, *De frictione.* Ludg. Bat., 1732.

Hundertmark, *De singulari usu frictionis et unctionis.* Lips., 1740.

Assur, *De frictionis usu.* Hal., 1742.

Quelmatz, *De frictionibus abdominis.* Lips., 1749.

Louis, *Remarques sur les différentes espèces de frictions. Ancien Journal de Méd.*, v. 207. 1749.

Kanis, *De frictionibus.* Vienn., 1756.

Jussieu, *An otiosis frictio.* Paris, 1757.

Wesphal, *De frictione magno remedio anti-hypochondriaco.* Gryphisw, 1762.

Mellin, *Frictionum usus præstantissimus, &c.* Ten., 1766.

Brotonne, *An frictio sit salutaris.* Paris, 1782.

Delius, *De panni asperi lanei usu medico-chirurgico.* Erlang., 1786.

Baudry, *Sur l'utilité des frictions.* Strasbourg.

Winkler, *De frictionibus.* Ten., 1795.

Pienitz, *De frictionis et unctionis usu therapeutico et diætetico.* Viteb., 1806.

Cohen, *De frictionis usu apud veteres.* Berol., 1820.

Delamarre, *Sur les frictions sèches.* Paris, 1829.

Grossman, *De frictione medica.* Lips., 1834.

Balfour, *On friction.* 1819.

Cleobury, *Rubbing System*, by Mr. Grosvenor, of Oxford. 1825.

Beveridge, *The cure of disease by manipulation.* Edinburgh, 1859.

Johnson, *The Anatriptic Art.* London, 1866.

Laisné, *Du massage.* Paris, 1869.

### *Gymnastic Treatment.*

"From the very first the efforts must be unceasing to bring the palsied limb once more into use, whilst, when the power is most impaired, attempts must be made, by the regular employment of passive exercise, and by friction of the limb, to prevent that wasting of a limb which is sure to follow on long-continued inaction.

"If a leg be affected the sense of insecurity deters a child from walking or even from making the slightest effort to do so, although carefully supported by its mother or nurse, and it will cry and refuse to make any movement. The attempts which evidently distress the child so are discontinued, and in the hope (too often a vain one) that in time the little sufferer will recover some power, much valuable time is lost, and the muscles waste, and permanent deformity of the limb results.

"In these cases two very simple means are often of great service in preventing the untoward occurrence. The baby-jumper exercises the legs most effectually, whilst, when there is even a very moderate return of power in the legs, the go-cart is of very great use, since it completely removes all sense of the risk of falling, and the little one soon begins to walk again. The go-cart has the disadvantage that it exaggerates the disposition to lean very much forwards in walking, which is observable in children for some time, even after they have learned to walk pretty well. The gait is thus rendered very unsteady. As soon as the child is able to walk in the go-cart, its use should entirely, or in a great measure, be discontinued, and substituted by a little jacket made of a stout material, lined and padded under the armpits, which is put on the child, a couple of straps of stout webbing, one end of which is fastened in front, the other on the back of the jacket; they must be sufficiently long to be conveniently held by an attendant, who supports (or rather partly lifts) the child, and prevents it falling forwards. The child; feeling perfectly safe, now perseveres in walking. Many of the worst consequences of paralysis are thus prevented, and a more speedy and complete recovery is obtained than could at first have been expected.

"If the child be five or six years old, and able to learn to walk with crutches, this should be done, because it will make greater and surer progress if entirely dependent on itself than if its weight is borne, or the possibility of falling prevented by a nurse or attendant.

"When the arm is affected the principles laid down are of the greatest importance. *Passive* exercise *must* be strictly carried out, the sound arm must be tied up, either altogether or for a considerable part of the day; coaxing, bribes, and all the inducements which move a little child's heart, must be brought into play as rewards for using the feeble limb. Raising a weight by means of a rope passed over a pulley is a mode of exercising the arms, which can be put into practice even in very young children, whilst in those who are older trundling a hoop with the feeble arm is a capital plan for joining work and play. I need not say that much care and patience are needed in carrying out any of these suggestions, and not a little of that intuitive love for children which teaches those who are its possessors how to extract fun and merriment from what might in other hands be a most irksome task (West). I may be permitted to observe that all those cases in which a go-cart, or the other means suggested by Dr. West, can be used, are not the really bad ones, and there is no doubt that in similar cases a considerable improvement or even a cure can be effected by perseverance during a long period.

"The *local* means for promoting recovery of paralysed muscles are possibly of greater importance than the general means.

"The efficacy of frictions and shampooings appears to be indisputable.

"The efficacy of proper movements can only be doubted by those who are unacquainted with the results arrived at by the movements cure and by systematic movements of one kind or another with or without the help of mechanical apparatus.

"Indeed it is to be hoped that the time is not far distant when a suitable gymnasium will be considered as much a part of the proper fittings of a hospital as the dispensary, and when medical men more generally will be alive to the importance of suitable gymnastics, not only as an educational but also as a curative measure. Surely there is a lesson to be learnt from the results of the carrying out of the movement cure, a lesson which the practitioners of orthodox medicine are not justified in continuing to decline to learn because it happens to have heterodox belongings.

"It is certain that in many cases very satisfactory results may be obtained without tenotomy and without apparatus, by means used with the view of bringing back power into the paralysed muscles. Electricity, movements of various kinds, shampooings, and others; and my own experience has convinced me that this fact is not yet sufficiently recognised and acted upon in practice. That in many cases neither tenotomy nor apparatus can be dispensed with, I fully believe; that in all cases the electrical and gymnastical parts of the treatment are of *primary* rather than of merely secondary importance I am every day more and more convinced, because each day I meet with instances of muscles which I should have once looked on as hopelessly paralysed being resuscitated by those means. Indeed I cannot but think that, so long as institutions especially set apart for orthopædic purposes are wanting in properly furnished electrical rooms and gymnasiums, there must be in some essential points a necessity of a greater reformation in orthopædic practice.

"There is reason to believe that the PROPER use of movements and manipulations will be of service in the treatment of *many forms of paralysis.*

"Orthodox medicine has much to learn from heterodox medicine in this matter, and it is to be hoped that no time will be lost in recognising this fact and in acting upon it. It is to be wished, indeed, that the results obtainable in paralysis and in many other cases by means of the treatment called Lingism (after its originator, Ling), or the Swedish system of gymnastics or kinesitherapy, or the movement cure, were more generally known, and appreciated at their proper value. Surely it is not right to refuse to recognise a truth because it happens to be presented in a manner which is more or less erroneous. Surely it is not right to neglect an important means of cure because many (certainly not all) of those who are alive to its merits and carry it out practically are quacks and impostors, and in alliance with other quacks and impostors. Surely the practitioners in orthodox medicine are *eclectics*, ever learning and ever bound to learn and apply every means of healing. For my own part I may say that I have long been in the habit of using various movements and manipulations in the treatment of paralysis, and that I am every day more and more convinced that to omit such movements and manipulations in these cases is to deprive the patient of a most important aid to recovery."—Radcliffe, *Lectures on Epilepsy Paralysis*, 1864, p. 332.

"Of late years much has been said about the so-called Swedish exercises as a means of restoring the usefulness of paralysed limbs; and though, unfortunately, the direction of them has fallen into the hands of persons not the most likely to maintain the reputation of our profession, we must not on that account undervalue the benefit which they are capable of affording. Two principles seem involved in their employment: the one, the devising of such movements as shall best bring into play these muscles, the power over which is deficient; the other, the calling forth the active exercise of the will in determining them." (West.)

Besides constant warmth, localised galvanism, and guards against distortion from unbalanced actions of muscles, Mr. Paget recommends in local paralysis the diligent use, for years if necessary, of

Regular friction and shampooing, especially circular shampooing.

Constant voluntary efforts; constant endeavour to regain every lost movement; and when any such endeavour is effectual, frequent exercise of the recovered power.

Swedish gymnastics, *i. e.* set exercise for each muscle in which power is not wholly lost.—Paget, in a clinical lecture reported in the *Medical Times and Gazette,* March 26th, 1864.

I have quoted these extracts from the writings of Dr. West, Dr. Radcliffe, and Mr. Paget, to whom, as well as to many other eminent colleagues, I am indebted for kindly placing patients under my care, not only as a proof that the scientific application of curative movements is appreciated by unprejudiced observers, but also as an encouragement to those who, convinced of a scientific truth, and of its value to others, do not shrink from its public advocacy, although they expose themselves to be called quacks and impostors, by those who judge without examining, and in general by the ignorant. Thus Mr. Charles Dickens has given the sanction of his name for ridiculing the scientific use of curative movements, and for attacking my character, by permitting the insertion of a paper in the journal he conducts.

### *The various means for raising the temperature of the paralysed parts.*

As long as the low temperature of the affected parts continues, the nutrition of the wasted parts does not improve, *but* the wasting will probably progress. It is, therefore, of the greatest importance to counteract the cold of the paralysed parts, which, as it has been mentioned before, predisposes to superficial ulcers of the skin, as well as to the arrest of development of all parts which are below the normal temperature.

The means applied for raising the temperature either convey, or aid in retaining a large amount of warmth, or they contribute to produce in the parts a higher temperature.

1. The *position* should be attended to in all cases; a para-

lysed part should not be permitted to hang down and to dangle about; it should be placed in a horizontal position, and the coldest part should be the highest, which assists the reflux of the venous blood.

2. *Clothing*—spun silk, a mixture of silk and wool; wool or fur garments should be worn next to the skin; it is only in exceptional cases that the hyperæsthesia of the cutaneous nerves does not permit any of these materials to be used. Here silk is placed next to the skin, and wool or fur over it. The paralysed part should be well warmed before it is covered with the bad conductors of heat.

3. *Dry heat* is conveyed by exposing the part to the direct rays of the sun; to radiating heat or a good chimney fire; for this purpose a screen is placed before the fire, and through a hole in the screen the cold limb is exposed to the heat, which in this way does not inconvenience the rest of the body. It should thus remain until it is very warm; bags filled with, or baths of hot salt, flour, or sand, are also used, as well as vulcanised india-rubber bags filled with hot water.

The Turkish baths afford the means for conveying *dry* heat to a very high degree.

4. *Moist heat* is applied by means of fresh or salt water baths, by warm douches, showers, hot flannels and cloths dipped in the water, well wrung out, and applied to the paralysed part; oiled silk, or other impenetrable materials are placed over it.

The Russian bath is one of the best modes for conveying moist heat.

5. *Junod's exhausting apparatus.*—The necessary precautions with regard to warming the apparatus, and the limb which is placed in it, too great diminution of atmospheric pressure, too prolonged or too painful application, must not be neglected. A large amount of blood is retained in the capillaries of the skin, by which warmth and improved nutrition are in some measure promoted. The feeling of bursting or excessive fulness in the limb should always be avoided when this instrument is used.

6. *Electricity.*—The *continuous* current is applied either

by galvanic chains, which convey a current with slight tension; also static electricity has been recommended for the same purpose. Dr. Burg's metallic bracelets and bands applied to the calf, thighs, and upper arms, are sometimes of use.

7. *Manipulations,* or various movements applied by another person on the cold parts of the patient; oscillation, vibration, kneading, fulling, rotation, percussion, pressure, palpation, tapping, chopping, longitudinal and transversal friction on a large or small surface, with the palmar surface of the finger, or the palm of the hand, or with the whole palmar surface of the finger or hand; the so-called shampooing (massage) and its manifold operations belong to those means which not only produce an increase of temperature in the cold limbs, but also directly contribute to the improvement of the nutrition.*

The Americans, who cannot spare manual labour, instead of professional rubbers, use machines. Dr. George H. Taylor, who has a movement cure establishment in 38th Street, New York, has lately sent me his pamphlet, in which drawings of an oscillating machine to be used by four persons at one time, of an apparatus for rubbing, vibrating, and kneading, are published. These machines, if they answer the purpose, might be recommended to the hospitals for the paralytic, where there are no means for the application of the manipulations required in every individual case.

8. *Active exercise* of all parts which can be moved, and especially of those which are nearest the paralysed parts.

9. *Applications of cold on the spine* in the form of wet or dry cold compresses, and of ice in the spinal bag, have also been useful in some cases, and were used by me for years before Dr. Chapman published his theory of the action of cold and heat on the spine in many cases of spinal irritation, with pain, and where cold hands and feet are some of the symptoms. I was guided by the pain in the spine,

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* Many of these manipulations have been described and engraved in my handbook on the *Movement Cure,* published by Messrs. Groombridge and Sons, Paternoster Row, where the reader will find the mode of their application.

and sometimes have used cold and warm simultaneously on two or three different places, according as the patient felt relief by the application of the different temperatures; but I was not and am not able to explain why, for instance, a warm or cold compress in the middle, and two cold or warm ones above and below it, frequently produce considerable relief.

The following case of paralysis relieved by ice and friction is interesting, and was published by Surgeon-Major Broughton, of the Bombay Army, who was induced to make the trial in consequence of Dr. Chapman's publication.

"A poor girl, æt. 21, was paralysed and bedridden for upwards of a year; there was entire loss of sensation and motion up to above the knees; the feet were stiff and attenuated, but neither waste nor rigidity in the muscles of the legs; pinching and cutting the skin caused no reflex action; tenderness on pressure in the lower cervical and dorsal region; left leg an inch shorter, which was connected by an obscure (?) thickening of the sacral region. Health good, menstruation normal, no hysteria, no accident nor injury; has never played like other children, but was accustomed to limping upon one leg, and had a weakness in her back; this limp decreased as she grew older, and although not able to join in the sports of her companions, was able to go to service, and to perform her duties satisfactorily.

"The pain in the back, however, increased, much and varied treatment had been in vain resorted to, and she and her parents had given up all hope of recovery.

"I directed in October two pounds of ice in oiled silk bags to be applied to the spine every morning for two hours, followed by hand friction down the spine to the extremities for two hours, the whole body subsequently being cased in flannel.

"Great pain and distress was the effect produced; the skin of the part subjected to the ice was purple and congested, appetite impaired,, bowels constipated. The patient was with difficulty persuaded to continue the treatment; at the end of ten days a little sensation commenced in the feet, soon followed by slight motion. On December 1st she was able to stand and to move about the room. On Christmas day she was walking in the streets of the village, and two months later was able to conduct the ordinary duties of a cottage household. *No medicines have been used;* the constipation was removed by wet compresses." (*Medical Times and Gazette,* 28th May, 1864.)

How much the frictions for two hours daily may have contributed to the cure Dr. B— does not mention, and there is no reason to ascribe all the good effects only to the application of cold, especially as it is known that the advocates of animal magnetism have published cures of paralysis effected by mesmeric passes and frictions; and I have at present a little paralysed boy under treatment whose leg and foot, according to the mother's statement, began to be warm only after having been daily mesmerised for five minutes by passes on the paralysed leg and foot.

10. The apposition of a *mineral* magnet is also mentioned as producing warmth or increasing the temperature in a cold, paralysed part.

11. The friction of the paralysed part with a hand dipped in cold water till the water evaporates often causes a sensation of warmth and a kind of glow in the paralysed part; for the same purpose a towel dipped in cold water and well wrung out is thrown on the cold part, and the passive movement called "fulling" is continued till the towel and the cold part become warm.

According to circumstances the medical man must choose the means most suitable in each individual case for raising the temperature of the paralysed parts; my object in suggesting and enumerating the various means is to call the attention of the profession to the importance of making, if possible, but at any rate of conveying and retaining, a higher degree of temperature in and near the paralysed cold part.

### *On the influence of volition on the paralysed part, and how to stimulate the power of the will.*

Paralytic patients are apt to remain quiet and not exert themselves. The stimulus of the will already diminished by the disease is still further weakened by want of action, not only in the paralysed parts, but also in those parts which are still partially under the control of the will. Rigidity or relaxation of the joints, contraction of the limbs, atrophy of the muscles, anæsthesia or hyperæsthesia in one or another part, and other symptoms caused by the paralysis, increase in intensity as long as active or passive movements are not counteracting their further progress.

Besides the various manipulations mentioned amongst the means for raising the temperature of the paralysed parts, all the movements which can be made passively on any joint according to its anatomical structure will aid in arresting or in preventing the atrophy of the muscles, rigidity of the joints, and the consequent deformities; but the most important factor will always be active movement, because the agency of the will is the only direct means by which we can influence the central organs.

About ten years ago * I advocated the *use of the will,* the *innervation* which is an organic functional act subject to the laws of waste and repair of the tissue performing it, as a most important agent for regaining the power of movement in the paralysed part. My experience since that time has but confirmed my views on the subject, and I can only repeat that strychnine, electricity, and other stimuli, cannot be substituted for innervation, the organic influence of the will proceeding from the mysterious, internal, vital source; all paralysis capable of some improvement can be more lastingly benefited by natural innervation than by artificial, electric or any other stimuli.

"To restore a part to its pristine state of vigour we must attend to the principle, that *active* exercise of an organ is necessary not only *to its perfection but to its preservation.*" (John Shaw.)

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* *Contributions to Hygienic Treatment of Paralysis,* page 12. Groombridge, 1860.

"The manner in which stimulants are supposed to act in paralysis is by increasing that energy of the brain which is necessary to the production of muscular action. *The stimulus which appears to me the most safe, the most completely under our control, and the best calculated to effect this object, is that of frequent exercise excited by or dependent on volition.*

"The power of immediate association between volition and muscular action can be only recognised by repeated attempts; want of attention to these circumstances will explain the general failure of the usual means that have been resorted to for the cure of paralytic affections after the primary disease of the central organs, whatever may have been its nature, has been removed. The intimate connection and dependence which exists between the sensorial and muscular power has not been adverted to, and *that most powerful of all muscular stimulants,* VOLITION, has been altogether overlooked, or regarded only as a casual or secondary means of cure." (Ward.)

"Of the efficacy of the will, as a subsidiary means of restoring power to the partially paralysed limb, I have no doubt whatever. Of course in the child, whose will is feeble and liable to be distracted by very trivial causes, this power is far less energetic than in the grown person, but still it is a power well worth cultivating, and the steady perseverance in it exercised from childhood up to adult age will, I am sure, do more towards the recovery of a paralysed limb than would ever be imagined from its casual employment on one or two occasions." (West.)

To move and exercise the paralysed limb as much as possible, in order to direct *perseveringly* the *mental activity* on the paralysed part, and thereby to contribute to the restoration of the lost movement, is *John Hunter's* advice.*

Although all authors agree in recommending exercise for the paralysed part, there are but few who insist on the necessity of an enduring psychical tension on the part of the patient *to try* to make an effort of moving a part, notwithstanding they are conscious that they are unable to move. Although children under the age of four or five years are scarcely supposed to be able to understand how to make the mental effort of directing the will in a given direction, I have several times seen children only three years old trying to assist in moving a paralysed limb whilst it was, in fact, moved by another person. In older and more intelligent children, as well as in youths and adults, the difficulty of making an effort of the will decreases in proportion to their intellectual development and mental energy; a sufficient amount of difficulty and resistance to the mental exertion of energetically willing we must be prepared to overcome in *all* cases, in the young as well as in the old patient, but if the medical man has sufficient energy, patience, perseverance, and knowledge how to manage the little ones and to make use of their power of imitation, and, I may add, if he has some love for them, he will finally succeed, and his hand will feel, before his eye observes it, that the child tries *to will*, and this is the first and a very important trace of real improvement. A loving mother and an intelligent painstaking nurse interested in the child's welfare are most desirable assistants. It is very well to recommend elastic bands with handles, all kinds of mechanical and gymnastic contrivances, such as go-carts, baby-jumpers, &c., for cases where partial power of movement exists, but these cannot be used when there is *an impossibility of making the slightest movement.*

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* J. Clarke, *Comment on some of the most important Diseases of Children.*

The following is the manner I have hitherto found best answer the purpose of rousing the will and of increasing the innervation :—

1. The patient is placed in a comfortable position, lying, half lying, or sitting, in which he can remain without any exertion perfectly passive.

2. The paralysed limb is raised and supported by the operator, who moves it in a given position, bends, stretches, turns or rotates it several times, while the patient is requested to see the movement which is done for him.

3. First only one movement is done. Suppose the extensors acting on the elbow-joint are perfectly paralysed, and that the patient is able to make the flexion, the operator makes the extension, and after having done so several times, the patient is directed to stretch the arm. The usual answer "I cannot" is not permitted; he is induced to say "I will try," and is encouraged to try; but as the patient knows by experience that he is not able to stretch the arm, and it is probable that for some time he has made no attempt at trying to do it, he finds a difficulty even in making the mental effort of trying. After some persuasion and encouragement he gives way and endeavours to try. At this moment it is important to make for him slowly and gently the extension, which being coincident with his mental process is at the same time seen by the patient; the impression thus conveyed through the eye to the brain convinces him that his effort was not in vain, because the arm is really stretched. The little patient believes that he has some share in it, because he knows he has made some effort, which is itself a new and unaccustomed sensation. These efforts of the will are repeated three or four times, and the corresponding movements are always done for him. I consider this mental dynamical operation the first step towards influencing the conducting or efferent nerves, and indirectly the paralysed muscles. When flexors and extensors are simultaneously paralysed, the operator will proceed in a similar way. In this case he is obliged to do alternately and slowly the flexion and extension of the forearm, while the patient endeavours to direct his attention and will to the movements as is suggested in the previous case.

When the joint to be moved is rigid, the attempts on the part of the patient's will should begin only after the operator has repeatedly and for some time endeavoured by passive movements, manipulations, and other means to *ease* the joint and undo the rigidity.

4. The greatest precision is desirable regarding the direction of the movement, its uniformity and duration.

5. The patient's will is to act simultaneously with the operator's will, or according to his command.

6. The repetition of the movement depends upon the patient's mental and physical powers.

7. The sympathetic influence of the will is made use of by inducing the patient to move also the *healthy* limb, while he tries to influence the corresponding paralysed part.

8. The parts adjacent to the perfectly paralysed part should be moved *actively,* i. e., by the patient alone, if this can be done, or while assisted by another person if the patient's power is not sufficient to overcome the resistance of the weight of the part to be moved; it happens freqnently that the inactivity of a part continues only because the patient is unable to move it with ease, whilst a slight diminution of its weight enables him easily to overcome the difficulty.

9. The energy of the will is increased in parts under the patient's perfect control, by another person gently resisting the movement he intends to do, or by the patient's gentle resistance to a movement of his body or limbs, while done by another person.

The following are the successive stages regarding the functions of volition on the part of the patient:

1. The patient is encouraged by another person to make the first effort to will.

2. The patient tries, his power of moving is deficient; the movement is done for him.

3. The patient exerts his will, has but partial power, another person assists his movement either by diminishing the weight of the part or by actually doing a part of the movement.

4. The patient's will and power are sufficient to move the weak part, although not yet with ease; his power increases by degrees and the weak part is moved with less difficulty.

5. The will of the patient is stimulated by another person gently resisting him, while doing an intended movement; or he gently resists the other person doing a movement with any part of his body.

Great caution is required not to fatigue the patient by the *attempts to* use his will; if a dull or acute pain in the head is caused by the patient's endeavours to will, these attempts must be stopped, and passive movements only should be used, till at a later period new trials can be made without causing headache.

### *To prevent the contraction of the joints, retraction of the muscles, and consequently the various deformities caused by them.*

The contraction of the joints takes place when the flexors moving the joint in one direction remain healthy, whilst their antagonists are paralysed; secondly, when both flexors and extensors or abductors and adductors are paralysed, and the limb is left for a very long time in the same position, without any attempt being made to stretch the joint even *passively*.

In the first case the flexors have retained their natural power of contractility without being counteracted by their antagonists; they have a constant tendency to shorten, and in course of time to contract and retract to such an extent, that the bent joint cannot be stretched even by another person, except by using a great amount of force; here the contraction is almost a primary effect. Similar cases frequently occur in the cerebral forms of paralysis, and especially in hemiplegia.

In the second case, the perfectly paralysed limbs contract in a much slighter degree; according to the laws of gravitation the joint is constantly tending towards one and the same direction; the ligaments and one set of muscles in consequence partly of the elasticity of the fibrous tissue, partly by the constant repose, and again by the extremities of the muscles being mechanically approached by the constant and unchanged position, contract and become retracted. The following case will explain this second form of development of a secondary contraction:—A child affected with localised paralysis of the flexors of the foot is not attended for months or even years; the child remains either in bed or on a couch, the foot, with toes usually projecting beyond the support, always falls forwards, and mostly also upwards;

it forms an obtuse angle with the leg; the ligaments in front of the ankle-joint are slightly stretched by the weight of the foot, the heel approaches the posterior part of the leg, the tendo-Achillis is mechanically compressed, retracts in course of time, and the gastrocnemii having retained their contractility, a club-foot *equinus varus* is formed.

### *Orthopædic apparatus.*

The contractions, which soon after the invasion of paralysis are very slight, are prevented either by bandages and splints, or other mechanical means which retain the joint in a normal position *when the patient is at rest.* If the flexors of the foot only are paralysed, an elastic power supplying the lost function of bending the foot is adapted to the boot, which should be high enough to reach two or three inches above the ankle-joint. In very slight cases a piece of leather (a flap) fixed to the middle of the upper part of the boot, or two leather straps attached to both margins of the sole, at a place corresponding to the middle or anterior third of the foot, and crossing each other on the dorsum of the foot, are fastened by a buckle and strap (passing through a leather loop to retain the right position) on the back of the lower part of the tibia, or the highest and posterior part of the boot. When the extensors of the toes are paralysed, I make use of stockings provided with divisions for each toe (similar to the fingers of gloves), which are quite sufficient for retaining the normal position of the toes, and preventing this contraction.*

If the precaution of preserving the normal position of the foot has been neglected for a long time, and the tendo-Achillis is more contracted, a greater amount of power is required in order to retain the normal position; for this purpose an upright leg-iron, figs. 42, 43, *b*, *b* (with a joint *h* corresponding to the height of the ankle-joint), is fixed at a right angle to the sole of the boot, which is provided with a socket placed transversally under the anterior part of the heel; the transversal piece joined to the lower part of the perpendicular passes through the socket *i*, into which it is fixed by a spring (pressing on this spring permits the removal of the perpendicular from the boot); the perpendicular fixed at the top by a padded ring *d*, which surrounds the upper part of the calf, serves only as a point of support for either a cord of vulcanised india rubber, or a spiral steel spring *c*, *c*, which is fixed at its upper part, and acts with its lower free part on a little wheel *a*, on the ankle-joint, and raises the front part of the foot into the natural position.

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* I fancied I was the first to invent similar stockings, but in 1861 I saw several officers belonging to the Japanese embassy who had stockings with a *division for the big toe.*

The patient having retained the power of the gastrocnemii, is *not* prevented by this elastic contrivance from stretching the foot, and when the patient is passive, the spring retains the normal position of the foot, acts as an antagonistic power to the gastrocnemii, which, although able to contract at the will of the patient, remain in a relaxed position; thus the ankle-joint retains its normal state, and the development of a pes equinus is prevented.

The Figs. 42 and 43 show the boot with the spring fixed

FIG. 42.

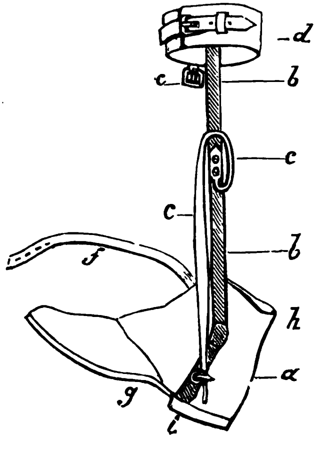
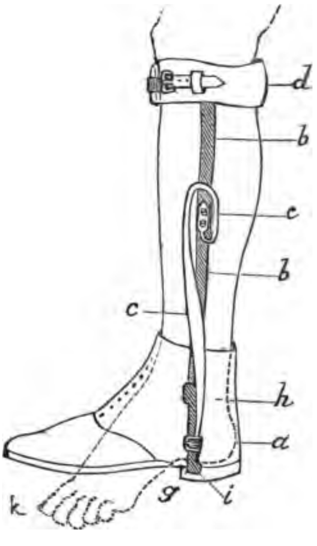


FIG. 43.



to the perpendicular, and the position of the boot which forms an acute angle with the perpendicular in fig. 42.

Fig. 43 shows in the dotted lines the pes equinus, and how the foot is retained in the normal position.

If there be a tendency to varus, the spring will be everted and combine the functions of flexors and abductors, or in a slight degree a flap or strap is adapted to counteract the constant tendency of the healthy muscles to move the foot in the direction of their action.

### *How mechanical supports should be made and used.*

The principles according to which every mechanical contrivance required for the retention of a joint in its natural position should be made are—

I. Not to interfere with those movements which the patient can do.

II. Not to interfere with the circulation of the affected or any other part.

III. Not to cause any swelling or pain.

IV. The elastic power, whether india rubber, steel spring, or any other material, should be sufficiently strong to act antagonistically to the prevalent power of the healthy muscles, which must be neutralised while the joint is at rest; they must be prevented from contracting except under the additional impulse of the will.

V. Where the tendency to contraction is very great, the elastic contrivance should be used constantly during the day and night.

VI. It is frequently necessary to remove the apparatus, partly for the application of baths, douches, passive manipulations, &c., or if they cause soreness, pressure, &c.

Fig. 44.—Mathieu constructed, in 1852, an apparatus, fig. 44, with india-rubber bands, for a young man who could not walk, in consequence of the complete paralysis of the extensors of the leg; the leg to the upper third of the thigh was supported by two vertical irons; strong caoutchouc bands *a, b,* were placed in front of the knee, and fixed at the upper and lower circle; under the influence of the *flexor muscles,* the knee was bent, and the elastic band

slightly stretched. When the action of flexion ceased, the band extended the knee; thus the movement of flexion and extension was alternate, and the patient able to walk; walking was at first difficult, but practice made it afterwards easy.

FIG. 44.

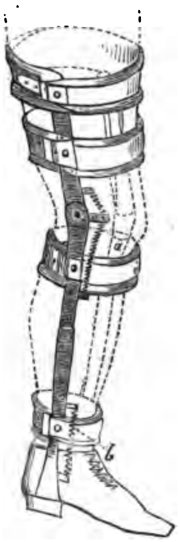


FIG. 45.

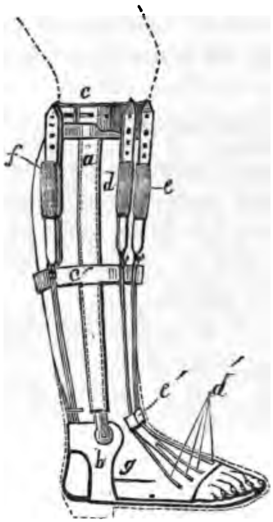


Fig. 45.—This is an apparatus by Charrière, according to Duchenne's directions, and consists of two uprights, *a* (which are united by the two metallic circles, *c*, *c*, which can be opened in front), fixed to the metallic piece, *b*, to which is attached a leather, or thin metallic plate covered with leather; *d*, *e*, *f*, are caoutchouc band substitutes for the paralysed muscles, and are fixed like tendons to the gaiter, *e'*, *d'*, over the foot; the dotted lines show the outlines of the boot.

### *Means for arresting the constantly progressing atrophy.*

The majority of means suitable for increasing the temperature of the paralysed limb are also used for preventing the progress of atrophy; besides these, kneading, pressure, and percussion, the continuous electric current, local inunctions, that is, frictions with oily or fatty substances (lard or olive oil are usually chosen), for one to two hours daily; both hands are alternately used, and the direction of the friction is longitudinal towards the periphery, or circular; the manipulations act on the capillary vessels, which supply partly the functions of nutrition, impaired by the abnormal state of the central organs; thus the pale and flabby parts improve in colour and firmness, and the atrophy is usually arrested as long as the paralysed part is daily acted upon.

### *To remove the contraction of muscles, retraction of tendons, and the abnormal state of the joints.*

Neglect in preventing the secondary effects of paralytic affections of the limbs by all the means which have been named under the preceding head obliges us to remove them by means which are more difficult than those required for their prevention.

The preliminary treatment is longer, and consists in using all those manipulations of passive flexion and extension, or adduction, abduction, and rotation by which the contracted or deformed joint might still be placed in a normal position. If these movements leave no hope for an improvement, recourse is needful to extension apparatus adapted to each joint, and the power of which can be by degrees increased. In the majority of paralytic deformities these extension apparatus and the manipulations will be sufficient. To return to the previous instance of a *pes equinus:* when this reposition of the foot into its normal position is very difficult or can only be accomplished by the use of much force, *Scarpa's* boot, or any of the modifications of Delpech, Venel, &c., are used. After the lapse of many months, or even a year, the desired result is obtained, and then only can the retentive elastic contrivance be used.

### *Tenotomy.*

Only in the highest degree of retraction of tendons and of deformed joints where no other means leave any hope for restoring the normal position of the joint, and if there be sufficient reason for expecting any practical result and benefit for *the patient,* tenotomy might be used; but we must bear in mind that the cutting of the tendons of the healthy and contracted muscles will not restore the power of the atrophied muscles. The abuse of tenotomy in paralytic clubfoot and contractions of the knee-joints has been, and is still, very general. To cut the healthy although contracted muscles, or rather their retracted tendons in a half paralysed limb, is very *irrational.* Ten years ago I advocated similar views, which have been confirmed by Bouvier and Malgaigne,* who say "the abuse of tenotomy in the treatment of clubfoot has been pushed to the highest possible degree, to the great and irreparable loss of the functions of the foot; by which the advocates of this operation *pretend* to restore it to its normal state."

As a rule tenotomy is useless in paralytic deformities, except for changing the form of the joint without an improvement in the use of the limbs. In extreme cases of contraction which have not yielded to the protracted and constant use of passive manipulations and extension apparatus, and where the restoration of the normal position of the joint can be of any use to the patient, the operation might be performed, but also in such a case the smallest number of tendons or only one should be cut. It is unhappily the prevailing fashion of orthopædic surgeons to operate as often as possible, and cut as many tendons as appear retracted.†

Even in considerable contractions of the healthy muscles, the patient retains the power of still more contracting these muscles. He should be encouraged to do this while the operator simultaneously tries to stretch these parts by causing an excentric contraction of the muscles, which means that the two extremities of a muscle, while contracted by the will of the patient, are removed from each other by the will of the operator. This process frequently repeated produces results which are scarcely expected in the beginning; whilst this excentric action takes place, vibration, kneading, percussion is made on the contracted tendons.

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* "L'abus des sections tendineuses dans le traitement du pied bot, a été poussé aussi loin que possible au grand et irreparable prejudice des fonctions du pied que l'on avait la pretention de ramener à son état normal."—Malgaigne, *Leçons d'Orthopœdie*, p. 118.

† This mania for useless operations is proved by the following case of one of my patients, who, after having been cured from some ailment, wanted to get rid of an anchylosis of the second joint of the big toe, the consequence of an accident and bad treatment. Once I happened to mention that excision of joints is sometimes resorted to, but that this operation would not be suitable in his case, and that I could not conscientiously advise it. A few months later an orthopædic surgeon had performed this excision of a wedge-shaped piece of the anchylosed part, and the patient had been afterwards *several* times under the influence of chloroform, in order to enable this orthopædic surgeon to make passive manipulation on the operated big toe. The result was that the operator received his fee and the patient has still an

### *To retain the normal position of the joints and to prevent curvatures of the spine and deformities of the limbs.*

The first and second part of this indication is fulfilled by the means named under the heading of the fifth indication. I will only add that the *elastic force* was first used in orthopædic apparatus by Delacroix, but Mellet was the first who used india rubber; and Rigal de Gaillac to substitute the elastic force to the weak muscles. Duchenne is believed to be the first to substitute or replace the paralysed muscles by artificial elastic bands or elastic springs (as they have been and are still used in braces) which are attached and placed in the direction of the affected muscles, and are provided with artificial tendons sliding like the natural ones in their proper artificial sheaths.*

anchylosed toe. Similar cases of cut tendons, without any beneficial result, I have repeatedly seen, and at this moment I have three paralytic patients who have undergone such operations without any beneficial result.

* A few years ago a London surgeon, who carried out Duchenne's ideas by using elastic india-rubber cords, which he inserts and attaches at the corresponding places of the paralysed muscles by hooks soldered on flat pieces of tin, and which are fixed to the limbs by circular bands of sticking-plaster, communicated his mode of proceeding or his invention to one of the London medical societies. The report was scarcely published in one of the leading medical papers when an orthopædic instrument maker sent to the same paper a long reclamation against the surgeon, and promulgated himself as the inventor of the application of the vulcanised india rubber for orthopædic purposes. The partiality of the editor for the instrument-maker was proved by a refusal of the insertion of the facts I have recorded in the interest of those who really have been the first to apply elastic force in orthopædic treatment, of which *important progress* there is not yet sufficient appreciation.

Mathieu, the well-known manufacturer of surgical instruments in Paris, was the first who made in 1852 an apparatus of strong bands of india rubber, which are placed in front of the thigh and knee to supply the lost power of the extensors (fig. 44). Mathieu asserts that Duchenne has no share in the invention of the application of india-rubber bands except in having given him in 1853 the advice of using it in spinal deformities ("deviations de la taille").

The third part of the sixth indication, viz., *the prevention of deformities of the spine,* is carried out by attention to the position of the patient, who should always either recline or at least be supported while sitting. If one arm is paralysed it must be raised and the patient not be permitted to use the spine as a medium for throwing about the weak arm; when one leg is paralysed and a supporting apparatus is used, *two* sticks are more serviceable and better than one when he attempts to walk.*

The ninth, tenth, eleventh, twelfth, thirteenth, fourteenth, and fifteenth indications will be best carried out by the movement cure, which is surgery without a knife, and which is, in the hand of God, the human hand permitted now through insight into God's law to be the saving instrument of earthly life and organization (Bauman in his *Address on Surgery*).

Those who have taken or will take the trouble of following Dr. Radcliffe's advice, mentioned in the previous pages, regarding the study of the movement cure and its results in paralysis, will soon be able to appreciate its value and to make use of it.

I should be obliged to copy my previous treatises on the use of *Movements in Chronic Diseases,* and from the *Handbook of the Movement Cure,* were I to give detailed descriptions of all the manipulations and movements required for carrying out these indications.

A knowledge of the importance of medical gymnastics for diagnostic purposes in many purely so-called internal as well as surgical complaints will be also appreciated, and the student will find himself possessed of a very useful curative accessory, which does not exclude any other hygienic, medicinal, or surgical means. It might be worth his consideration that he will be able to cure many a chronic complaint or deformity which he would fail to cure without this system.

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* More on this subject will be found in my *Prevention of Spinal Deformities, &c.,* published by Groombridge and Sons.

### *That supporting apparatus, crutches, sticks, or retention contrivances should be gradually removed, and only those which are indispensable retained.*

The progress of the patient's improvement will enable us to carry out the above-named suggestion, but care must be taken to seize the right moment. All patients accustomed to some mechanical contrivance are with difficulty induced to give them up; they are not sufficiently aware of their own power, and have neither courage nor self-reliance. Notwithstanding this, it is our duty to insist upon their giving up mechanical aids as soon as we are convinced that they can do without them.

### *The forms of paralysis in which the movement cure, including all other suitable means, can cause an improvement or cure.*

1. Where no change of structure has taken place in the primitive fibres of nerves.
2. Where the (gelatinous transparent) marrow in the nerve tubules has not undergone any or only a very slight change.
3. Where the single nerve-cords have not changed their structure, or only very partially or slightly.
4. Paralytic affections which are caused by venous congestion, or stasis in the brain, spinal cord, or single nerve-trunks.
5. Paralysis after slight degree of extravasation of blood, or serous exudations into the brain or spinal cord.
6. Where the muscular tissue of the affected part has

not been considerably changed by deposits of plastic lymph, or granular or fatty degeneration.

In all these cases, an improvement, or a cure of the general symptoms, and especially of the power of movement, may be reasonably hoped for.

Sometimes spinal paralytic affections are more easily cured by medical gymnastics than cerebral ones. Affections with predominant spasmodic contractions of single groups of muscles are also sometimes more easily treated gymnastically than those with predominant relaxations.

Hemiplegia and paraplegia are better managed by the gymnastic treatment than general complete paralysis.

The prognosis is better in cases when the muscular activity increases the secretion of cystoblastem, by which the morbid muscular tissue is changed, reconstructed, and a new formation of muscular tissue takes place, and where the innervation of the paralysed muscles can be improved. In the contrary cases the prognosis is worse. What has been mentioned is not to be considered as an apodictic fact, but experience must confirm, explain, and enlarge these views.

Medical gymnastics will be as useless as any medicinal or other treatment in paralysis with change of structure in the nerves, with considerable sanguineous or serous exudations, softening, suppuration, tubercles, tumours, cancer in the central nervous organs, sclerosis of the spinal marrow, thickening and fungous derangements of the cerebral and spinal membranes, exostosis, and other incurable changes. (Melicher, *First Report of his Medical Gymnastic and Orthopædic Institution.* Vienna, 1853.)

### *Effect of the Movement cure on the paralysed.*

It may be mentioned in general that a paralysed patient, having been previously treated medicinally without deriving any benefit, when left to himself and remaining passive usually gets worse.

The scientific application of the movement cure will in a curable case either arrest further progress of the complaint, improve, or cure the patient. In the majority of cases the constitutional state, the usually prevalent venosity, the respiration, circulation, and digestion, will be improved, and the tendency to fatty deposit or the atrophy of the limbs will be diminished, the patient will mostly improve in some respect, rarely get worse, and *never* be injured by the treatment.

The object of the treatment by movements is to rouse and stimulate the diminished vitality, to increase the organic function of innervation of the paralysed part of the brain, spinal marrow, the diminished or deficient innervation of the nerves or single parts of nerves, to restore the mobility and equilibrium between the activity of the paralysed groups of muscles, or of single muscles, and the greater power of their healthy antagonists.

### *Conditions desirable for paralysed patients while under the treatment by movements.*

Besides the strictest attention to all hygienic prescriptions a certain amount of perseverance and endurance in the treatment is required, the patient must exert himself as much as possible to assist the treatment by directing his mental influence very frequently to the affected parts; by making use of the powers left in and near the paralysed part; by trying to pay more attention to these parts so as to increase and develop his powers of will, which being fallow and latent are roused, stimulated, and increased by the movements, which thus contribute to greater vitality, activity, and more power of moving the locally affected parts, as well as the rest of the body. The success of the treatment will be in proportion to the energy of the patient's will, his mental powers, bodily activity, and perseverance in carrying out the given instructions.

Experience teaches that the lethargic patient without will, power, and movement, by degrees awakens, shows traces of will and action, begins to be conscious that he is able to try to do something, observes that his endeavours are not fruitless, that some (although very slight) movement in the paralysed part is visible, that his hope for recovery is greater, his will is more energetic, his endeavours are more frequent, his power is greater, his perseverance continues, whilst his general health and constitutional state improve, his bodily functions become more regular, and he is happy to find that his limbs gain more power of action and increased movement. The medical man, whose patience, energy, and perseverance have also been tried for months and even years, is finally rewarded by the pleasure of having obtained a result which is entirely due to his own exertions, and which cannot be obtained by the frequently invoked *vis medicatrix naturæ;* he will thus prove the truth of an old saying, "THAT FOR MAN IS NO BETTER MEDICINE THAN MAN."[*]

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# ON IPECACUANHA.

By Dr. IMBERT-GOURBEYRE.[†]

(*Continued from Vol. XXVI, p.* 585.)

## ACTION OF IPECACUANHA ON THE DIGESTIVE TUBE.

SCHNEIDER sets down as the first form of the *Ipec.* disease catarrh of the alimentary canal, whether as stomachal (simple gastrosis, or gastric fever remittent or intermittent), or as intestinal (diarrhœa), or as gastro-intestinal (cholera). This gives *Ipec.* a wide sphere of action. Setting out from these main lines, to which we shall add some collateral branches, we purpose running over in succession the various maladies which may be anatomically referred to the digestive tube, and in which this Brazilian root has been employed efficaciously.

*Maladies of the Stomach.*—Gastric derangement is synonymous with the "saburral condition," or stomachic catarrh. The daily use of *Ipec.* in vomi-purgative doses by allopaths is a fundamental proof of the salutary action of the remedy in like circumstances. Desbois, of Rochfort, proclaims its virtues in "gastric derangement;" Alibert in "affections of the stomach;" Vogt in "gastric sufferings;" Clarus in "stomachal catarrh."

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[*] Peter Blesensis, *Liber de Amicitia.*

[†] *Art Medical,* October, 1868.

There is also recorded in Hufeland's *Journal* (1809) a cure of hypochondriasis by *Ipec.* It was the case of a man of very sedentary life, who every six or eight weeks used to fall into a state of anorexia and hypochondria, with pressure, tension, and typanitis of the epigastrium, accompanied by constipation, with disgust and impatience of labour, and hypochondriacal humour and anxiety. This was preceded by nausea, and a tendency to diarrhœa. Cured in two days by a quarter of a grain every two hours. The affection returned much less frequently than before, and always yielded to the same remedy.

It has even been prescribed in chronic maladies of the stomach, in the neuralgic and painful affections of that organ. Thus Dauberton declared it to be specific in languor of the stomach, in chronic gastralgia. Berleille recommends it in cramps of the stomach; Sachs, Dulk, and Vogt in cardialgia. Fred. Hoffmann indicated it in pituitous vomiting; Gesenius in intestinal gout with vomiting.*

*Ipec.*, which produces vomiting, of course led the homœopaths to employ it in gastric maladies, accompanied with that symptom. The action of *Ipec.*, says Hahnemann (*Essay on a new principle*), is specially manifested in the chronic tendency to vomiting without throwing anything up. It is then given in very weak doses to provoke frequent nausea; at each dose the tendency recurs more rarely, and at last ceases.

Lobethal recommends it in nervous constitutions that are enfeebled, and in cases where the tongue is clean; also in the nausea and retching of hysterical subjects, in the morning vomiting of persons habitually feeble, and subject to pyrosis; in the nausea of nervous fever, or fever after indigestion.

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* Ray, the physician and botanist, said, upon its first introduction into Europe, "*Ipecacuanha* . . . non solum in dysenteria sed etiam in affectibus ventriculi datur optimo successu."—J. Ray, *Historia Plantasum.* Londini, 1704.

*Ipec.* figures among the principal remedies of indigestion. It is suitable, says my scientific friend Jousset* (*Eléments de Médecine Pratique,* 1868), in most of the cases, and in all stages of that malady, nausea with uneasiness, paleness, chill, vomiting, diarrhœa. A dose is given every half hour either in water, or, if there is a distaste for liquid, dry. At the very outset it may arrest the malady, even before the vomiting.

According to Clotar Müller, the "stomachal catarrh" demands *Ipec.* when there is an abhorrence of all food, and of tobacco, with vomiting, colic, and diarrhœa; *with the tongue always clean,* in spite of nausea and vomiting. *Ipec.* is suitable again in suffering from indigestion, in consequence of overloading of the stomach. In a general way, *Ipec.* is also indicated in case of vomiting food, mucus, water, and blood; also in the vomiting of infants at the breast, and in vomiting accompanied by loose stool.

Homœopaths have especially recommended *Ipec.* in vomiting during pregnancy (Müller, Rummel, Schreter, Rau, and Knorre). Schreter cured in a few days with *Ipec.* 200 a pregnant woman in the seventh month, who threw up all her food, day and night. Rau used to give a drop of *Ipec.* (mother tincture) every two or three hours in such cases. He finds this homœopathic treatment never to fail; the vomiting usually ceases on the second day.

In nervous vomiting, says Dr. Jousset, *Ipec.* is indicated when it is frequent, with constant nausea; diarrhœa is a confirmatory symptom. Dose: mother tincture, 6th dilution.

Kafka recommends *Ipec.* along with *Arsen., China,* and *Nux vom.* in cardialgia of the typical form.

*Dysentery.*—It is especially as an antidysenteric that this Brazilian root has been made known to the Old World, and from its first appearance it has had the name of *Radix antidysenterica,* and hence its introduction into practice. It is known that Helvetius was let into the secret by the drug merchant, Grenier, who imported 150 lb. from Spain.

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* Dr. Jousset, by publishing this work, has just presented French homœopathic literature with a desideratum. It is not only a conscientious treatise on Hahnemann's treatment, but also a remarkable work on pathology. Let us hope that it will open the eyes of many physicians and make new converts.

After favorable experiments made at the Hotel-Dieu, Louis XIV purchased the secret, loaded the eager experimenter with honours and wealth, and even granted him a monopoly of the drug to the prejudice of Grenier, who, disappointed in his expectations, went to law with Helvetius, and made *Ipec.* known by throwing open the trade. The minister Louvois provided the king's forces with it in order to command success, and all these facts enhanced its renown. Deckers extolled it in Belgium (1694). At the same time; Justal, librarian to the king of England, informed Leibnitz of the wondrous results of the new medicine, and the philosopher did not disdain to write in the *Acta nat. curios.* a letter to set forth its remarkable properties in Germany (1696). Finally, Professor Wedel's thesis on the subject spread the knowledge of the Brazilian root over the medical world. At the end of the eighteenth century, after numerous experiments made on *Ipec.* in dysentery, Murray laid down the indications of this medicine, observing that its antidysenteric renown was not weakened, and that henceforward one could ascertain accurately the stage of that malady where the remedy was found most applicable. I shall merely cite Drs. Trousseau and Pidoux, who have copied Murray verbatim without acknowledgment.

Administered in time, *i. e.* in the first days of the disease, when the stools are still bloody, without any indication of gangrene in the mucous membrane, this emetic assuages the colic, diminishing the number of stools, and the abundance of sanguineous excretion. We repeat the remedy two or three times, at intervals of six, twelve, twenty-four, or forty-eight hours, according to the effect of the first dose. Lastly, there is no fear of giving *Ipec.* after eight or fourteen days, or even longer, if the dysenteric symptoms have not been severe, whilst, nevertheless, the general health, and especially the digestive functions, continue seriously disturbed. (Trousseau and Pidoux, *Traité de matière Médicale.*)

Dr. Cunningham, army surgeon in the English East Indies, has treated acute dysentery there with very strong doses of *Ipec.* First, he applied opiate cataplasms on the epigastrium to prepare the stomach for the action of the remedy; in an hour he administered *Ipec.* in powder four to six grammes. Nausea soon ensues, but vomiting not till after an hour or two. Under this nausea, a strong perspiration breaks out all over the body, with the pulse full, softer, and less frequent; the face loses its expression of suffering, the tenesmus and colic abate, and the stools diminish in twelve or twenty-four hours. When the nausea ceases, the patient finds himself vastly relieved, though enfeebled. The stools are painless, liquid, and without a trace of blood or mucus, and already a small quantity of fæces exhibit the normal state. If dysenteric stools return recommence the remedy. Diet: chicken broth and arrowroot exclusively. No other medicine is required to complete the cure. According to our author, this method prevents all the sequelæ of acute dysentery, as liver complaint and chronic dysentery. (*Edin. Med. Journ.*, 1861.)

M. Delioux of Savignac, in his late treatise on dysentery, has taken up the subject afresh, almost the only modern who has somewhat examined the claims of *Ipec.* The importance of the subject demands rather a lengthy quotation.

M. Delioux remarks that the infusion is the best mode of preparation, which Marcgrave and Pison have noticed as the most common in Brazil; that Helvetius employed it, but that it was almost forgotten till Segond, a navy surgeon, recalled attention to it more than thirty years ago.

This Brazilian method consists in pouring 300 gr. of boiling water on 2 to 8 grammes of *Ipec.* powder. This is left for twelve hours, when it is poured off and a second dose of boiling water poured on, and a third infusion is made; rarely a fourth. The first almost always causes vomiting and increases the frequency of the stools. The second especially provokes nausea, often diminishing the stools. The third generally produces neither stools nor vomiting; the stools diminish or remain at par.

It is not absolutely necessary, says Delioux, to produce these evacuations, and it is the most remarkable property of *Ipec.* in dysentery that it does not so much augment the number as modify the nature of the evacuations; often causing, more rapidly and durably than purgatives, the return of the stools to a fæcal character. Thus by commencing with *Ipec.* we can obtain such speedy amendment that the purgatives are of no further use. Here this medicine seems to act more as an alterative. This being the case there ought to be more benefit from keeping the *Ipec.* down, since it acts as an alterative, than from administering it so as to become a vomi-purgative; and that is why Delioux, instead of giving the infusion in one dose or at short intervals, employs spoonfuls at intervals prolonged according as the stomach is more disposed to reject them. His proportion is four grammes of powder to 300 of water. Segond, when charged with the medical service at Cayenne, restored the reputation of the Brazilian method more than thirty years ago. His plan was preferable to Delioux's in respect of the diminution of the doses. He gave on the first day six spoonfuls of a decoction containing only twenty-four grains; the second day, four of a decoction made of the first; the third day, three of a decoction made of the grounds of the second. Delioux's formula has, besides, the greater disadvantage of spoiling the purity of the experiment by adding *Syrup of Poppies* and *Cinnamon water* (see the article by Segond, *Journal Hebdomadaire*, 1835).

"Remember," says Delioux again, "that an excessive quantity of *Ipec.* fatigues the patient without any benefit, even if it does not aggravate the disease. The results of this treatment are often very remarkably prompt and efficacious. *Ipec.* has in its way a value resembling that of *Quinine* in periodic maladies. I do not at all exaggerate its power, since I am the first to acknowledge that the violence or obstinacy of the disease often holds it in check; but it is no less necessary to recall it earnestly to the attention of a generation who have too much forgotten the services it rendered to their predecessors. Besides, it fails the less in proportion as it is managed better; and it stands as the medicine which succeeds oftenest in dysentery, and is suitable to the greatest number of cases.

M. Delioux advises *Ipec.* at the commencement of dysentery in its inflammatory and bilious forms; he places in the first rank the ordinary hæmostatic means in its hæmorrhagic form, always resuming *Ipec.* if the hæmorrhage is moderate; and sometimes gives it even in chronic dysentery, during periods of recrudescence; and even where there is no exacerbation, but other remedies have proved a total failure, he has occasionally tried *Ipec.* in smaller doses than for acute dysentery for several days (as if he were treating the acute form), and that with success; the disease then often got cured sooner. In the opinion of the author *Ipec.* is, of all the remedies, most suitable to the generality of cases. I have great pleasure in citing M. Delioux, because he confirms a tradition more than a century old on this very treatment; because the Brazilian method and his are a step towards the principle of *attenuation*; because he further does justice to the pure or dynamical effects of the medicine by proving, in opposition to Trousseau and Pidoux, that it is of no use to administer *Ipec.* as a vomi-purgative, but rather as an "alterative," to use the current slang of the profession. Why did that distinguished physician not diminish the doses still further? He would have easily established with homœopathic dilutions curative effects as positive and evident as with alterative doses.

Let us now quit the allopathic world to interrogate homœopathy respecting *Ipec.* as an anti-dysenteric.

It is remarkable that Hahnemann protested against its suitableness in dysentery. Originally, he says, this root was brought to Europe as a remedy for autumnal epidemic dysenteries. It is now more than 130 years since Leibnitz recommended it for those affections, when it was misused from a false conclusion, that since it cures certain diarrhœas it must also be good for dysentery, although the latter is the very opposite to diarrhœa, *i. e.*, to liquid and excessive stools. At last, however, they took second thoughts, ignorance having demonstrated a thousand times that it is not at all suitable to dysentery. So many unsuccessful and fatal attempts might perhaps all have been avoided if they had commenced by inquiring what were the pure and special effects of *Ipec.*, what were the morbid conditions which it can produce in the healthy, and what are consequently the maladies which it has the power to cure, because of their analogy with those morbid conditions. They would have seen that it is only calculated to diminish the excess of hæmorrhage and some kinds of abdominal pain in the dysentery, but that it has no power to stop all the other symptoms which are quite characteristic of that malady, *because it has not the power to provoke similar symptoms in healthy subjects.*

The disciples of Hahnemann, less strict than their master, have in studying *Ipec.* limited its action, whilst the majority seem to have neglected the use of it as an anti-dysenteric.

Though tenesmus, a dominant symptom of dysentery, is not a pure symptom of *Ipec.*, yet M. Teste has averred that it has more than once stopped tenesmus, if not in the true autumnal dysentery, at least in certain diarrhœas. He avows, though, that he never really succeeded without the aid of *Petroleum.*

Henke has seen *Ipec.* cure speedily in an epidemic dysentery characterised by nausea, vomiting, pain in the epigastrium, pressive frontal headache, loaded tongue, tenesmus, mucous fetid diarrhœa, with aggravation at night (*Prakt. Beiträge*).

Kafka recognises the prompt action of *Ipec.* in painful colic, with continual stomachic ailments and nausea.

In general homœopaths have not allowed great importance to *Ipec.* in dysentery, being influenced by Hahnemann's opinion, which was justly founded on its poverty in dysenteric symptoms. On the other hand, as they were richly supplied with pathogeneses of first-class medicines, such as *Merc. sol.* and *Corrosivus,* they had no need of recourse to a medicine which often disappoints, and seems to belong rather to the commencement of the disease, in cases of gastric symptoms and in its less serious forms.

I have only had to treat isolated cases; in some of these I have been quite satisfied with *Ipec.*, where the stools consisted entirely of blood, but I have been particularly struck with the certainty and promptitude of the action of *Merc. corr.* Here is a remarkable speciality of action. This is one of the morbid cases where one may best be clinically convinced of the efficacy of infinitesimal doses.*

There is a notable difference between the two schools in the treatment of dysentery. Whilst M. Delioux, for instance, wishes to revive the anti-dysenteric root by proclaiming its excellence, on the other hand he seems to disapprove of the calomel so much vaunted by the English. At the same time the homœopathic school attaches little importance to *Ipec.*, and pays respect to the Indian physicians by extolling in the first rank mercurial remedies under the form of *Merc. sol.* and *Merc. corr.*, of course resting on the physiology of the two medicines, *i. e.* feeble homœopathicity in the former, perfect homœopathicity in the latter; besides which, clinical evidence has come in and given its verdict in full. M. Delioux is not partial to calomel because, according to him, if it has the troublesome property of exposing the patient to salivation, it nowhere produces that result more readily than during the course of the dysentery, where, whatever may be said, it is merely an inconvenience and never an advantage. The fault is in the dose, not in the remedy. Here M. Delioux is induced to deprive himself of the best remedy for dysentery by the mere abuse of the doses. The whole secret consists in lowering the dose, even down to infinitesimals; and this is why we constantly see allopaths obliged to reject the most appropriate remedies because they persist in a uniform and often dangerous posology. When, then, will they understand that it may and must be extended? They have long persevered in this error, it would be quite time for them to get out of it; but that would be coming over to homœopathy, of which they will not hear, yet sooner or later to that they must come.

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* The idea of dysentery is, says M. Teste, so inseparable in the mind of some of our medical brethren from *Merc. corr.* that it seems to me to present itself to them as a scarecrow whenever I have had occasion to propose employing it when there was neither bloody flux, tenesmus, nor any other disorder of the digestive canal. Nevertheless every one knows that where it is plainly indicated (*e.g.*, for recent syphilis in men) it generally cures, even in *small* allopathic doses, without provoking the slightest dysenteric symptom. (*Systematisation de la matière médicale homœopathique.*) I can but assent entirely to M. Teste's remarks on the small allopathic doses. For the last four or five months I am administering daily in hospital practice, in the section of military venereal cases, Van Swieten's fluid in doses of ten grammes night and morning, and have never yet seen the slightest dysenteric effect produced. Such effects are quite exceptional; I have, however, seen them several times whilst attending on in-patients from 1852 to 1858. The physician may and must follow every degree of the posologic scale short of poisonous doses. Patients are cured, "*omni dosi.*" It is a mistake to adhere exclusively to the top, the middle, or the bottom of the scale. Our posology is an immense organ of which one has to run over all the various keys according to the maladies and the individuals.

*Diarrhœa.*—What we have said of dysentery must prepare us for the part *Ipec.* plays in diarrhœa. From the very first *Ipec.* has been recommended for the latter, because they had employed it for every kind of flux with success. *Medetur etiam reliquis speciebus* (Gohlins).

We see, in the *Acta Berolinensia, Ipec.* prescribed at the commencement of varices, *ubi abs diarrhœâ eruptio retardatur.*

Vogel, Bergius, Desbois de Rochefort, have indicated it for this malady;* others have praised its virtues in the chronic and obstinate form, as Monch, Voigtel, Arnemann and Vogt, Sachs and Dulk, in nocturnal diarrhœa. It is Fothergill, an English physician of the last century, who insisted on this application. Clarus, still more recently, prescribes it in intestinal catarrh. It is remarkable that most of them have recommended *Ipec.* in minute doses.*

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* Several writers on the Materia Medica, as Schmidt, Alibert, Barbier, &c., have repeated, vying with each other, that *Ipec.* acts so much the better in proportion as the root is more pulverised. Venel and Carrette add that it is of all the vegetable drugs the one which has the privilege of going alone. Thus, in regard to this medicine, the allopathic school have done due honour, in a certain sense, to the medicinal dynamism due to extreme subdivision, and also to the practice of giving one drug at a time.

The homœopaths have far more precisely limited the employment of *Ipec.* in diarrhœa.

*Ipec.*, says Lobethal, is a sovereign remedy in a great number of diarrhœas due to a chill or to mental emotions, diarrhœas without pain, consisting of fermented whitish or mucous matters. This same medicine in the second or third trituration also suits children attacked with diarrhœa during teething, yellow, white, or green diarrhœa, which is not attended with pain, anxiety, or emaciation, which may still lead by its continuance to serious consequences.

*Ipec.* is indicated in yellowish diarrhœa, with nausea, vomiting, salivation, weakness, sleepiness, paleness, tenesmus, and pain of the rectum (C. Müller).

More generally *Ipec.* suits in diarrhœa, bloody stools (Bönninghausen, &c.), in cases of green, or bilious, or blackish evacuations, and in diarrhœa with tenesmus (C. Müller), as well as in diarrhœa with vomiting and slight cholerines, consequent on indigestion.

In the mild form of diarrhœa, *Ipec.* at the outset when there is vomiting or nausea; so also in the common form (Jousset).

*Cholera.*—Of all the medicines employed by the allopathic school for this formidable malady, *Ipec.* is the one that has succeeded best in their hands. It is a pity that in their ignorance and contempt of homœopathic medicines they have not *Arsenic, Veratrum,* &c., which have so often succeeded in the hands of the disciples of Hahnemann.

I mean here to let Dr. Fabre speak, who has so well summed up all that relates to *Ipec.* in its allopathic employment for cholera.

Alibert, Desgenettes, Hugson, Baudelocque, Jadelot, MM. Andral, Gueneau de Mussy, in 1832, some foreign physicians, and amongst others M. Draut, of Vienna, speak of their success with this remedy.

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* Michaelis, too, in his treatise on *Angina polyposa,* says, "A few months ago, when diarrhœa was prevalent at Hanover, sometimes passing into dysentery, Dr. Wickmann often employed with success half a grain of *Ipec.* with half a drachm of white magnesia."—Dehaen, *Prælectiones,* 1784.

"At the outset," says M. Draut, "when there are gastric symptoms, or when even without such symptoms the patient traces the disease to an ill-digested meal, I prescribe every quarter of an hour fifteen grains of *Ipec.* powder till vomiting ensues. When the cholera is not very intense critical evacuations come on, and the cure is effected in thirty-four to thirty-six hours. Even in the absence of the above symptoms, I still employ this remedy in subjects with a soft constitution and venous plethora; but if nothing indicates the use of *Ipec.*, I give one eighth or half a grain of *Camphor* every half hour; which relieves the pulse, diffuses heat over the body, and favours the diaphoresis." For my own part, *Ipec.* seems to me to have sometimes averted the malady when employed in the premonitory symptoms which betray the existence of an embarrassment in the digestive passages. It does not suit if the face is red, the eyes bloodshot, with dimness and in short cerebral derangements which sometimes disguise the commencement of the disease.

Again, *Ipec.* is suitable when there is vomiting with whitish evacuations, cramp and incipient coldness of the extremities. It then modifies the evacuations or establishes the secretion of bile, and determines a gentle and moderate reaction. It has sometimes succeeded in cyanosis, when it could produce vomiting; but we ought to admit that this effect is often wanting, and the patients have succumbed.

M. Briquet says he has employed it with some advantage as a very energetic emetic in doses of two grammes divided in four parts, one every half hour. It has sometimes arrested vomiting according to the axiom of Hippocrates, *vomitus vomitu curatur.* It is then sometimes necessary to repeat the dose. According to M. Gendrin we may lay it down as a rule that *Ipec.* should be administered in the premonitory stages of cholera, in phlegmorrhagia, and even in incipient cyanosis when the progress of cholera is slow, with a prevalence of diarrhœic evacuations, and when all the symptoms of a saburral condition are added to the characteristics of cholera. In sporadic cholera and cholerine *Ipec.* may also be employed with advantage. M. J. Guerin says he was almost always successful with it in emetic doses in 1849 (Fabre, *Choléra morbus,* Paris, 1854).

All these facts cited by Fabre are prior to the epidemic of 1854. *Apropos* of this last, Nylander, a foreign physician, has also recommended *Ipec.* for cholera in cases of gastric sufferings and vomiting, whilst Brunning (*Wien. Med. Wochenschrift*) extols it enthusiastically in choleraic diarrhœa, as well as in a complete development of the malady, excepting, of course, cases amounting to asphyxia.

I NOW COME TO THE HOMŒOPATHIC SCHOOL.

Knorre prescribes *Ipec.* in the watery diarrhœa of infants, with vomiting of green or whitish matter, violent colic, with constant restlessness, agitation, and cries (*Allg. Hom. Zeitung,* t. v).

"Often every year," says Goullon, "I have to treat cases of European cholera, which may be considered as the culmination of entero-catarrhal diarrhœa. It is rarely necessary to employ any remedy but *Ipec.*, one drop of the mother tincture or of the 1st dilution."

In Asiatic cholera *Ipec.* has been employed by a great number of homœopaths, as Petersen, Seider, Reubel, Rummel, Vehsemeyer, &c., and the sum of their observations amounts to this, that *Ipec.* is but a second-rate remedy in cholera, and only suits slight cases or cholerine. The observers of the most recent epidemics confirm the previous verdicts. "The symptoms of *Ipec.*," says Gerstel, "show that it can only be useful in trifling cases" (*Allg. Hom. Zeit.*, vol. liii).

Findeisen (ibid., vol. lx) says: "In most cases of cholera I have obtained no result whatever from *Ipec.*, whilst they yielded promptly to *Veratrum.*"

We get the same lesson in the most recent treatises on pathology. Kafka limits the use of *Ipec.* to cholerine or to the initial stage of cholera, in cases of diarrhœa caused by defective hygiene when it assumes a typical form, in cases where nausea and vomiting constitute the sole features, or where the sickness is followed by fainting or lipothymia.

Jousset, in his excellent *Eléments de Médecine Pratique*, only indicates *Ipec.* in the mild form of cholera when vomiting predominates.

On comparing the results arrived at by the two schools, we see that in the main they are nearly the same; whilst the allopaths have employed emetic doses, the homœopaths have employed small doses, or the 1st, 2nd, or 3rd dilutions. If the latter, by their attenuated doses, have arrived at the same results, this is one other argument in favour of such doses being really effective. It is needless to add that *Ipec.* confirms the law of similitudes in its application to dysentery and diarrhœa, because it produces similar affections.

*Strangulated Hernia, Ileus, Constipation.*—It was the German surgeon, Richter, who proclaimed the virtue of *Ipec.* in strangulated hernia. This is his remark on the subject in his treatise *ex professo*:—"*Ipec.*, quarter of a grain given every half hour, is an excellent medicine in all spasmodic affections of the *primæ viæ*, and succeeds even in cases where *Opium* has no effect, whilst it often does harm when it does not relieve. *Ipec.* has this advantage over all other antispasmodics, that it is never injurious when it fails to do good. I do not know of any circumstance that can forbid it, so that one can always employ it without risk in every kind of spasmodic strangulation."

Amongst a great number of observations of the efficacy of this root, I will confine myself to the following:

"A young gentleman subject to frequent attacks of colic at last experienced one of great violence. At first the pain wandered about the abdomen, but at last fixed in the right side; was sometimes so severe that the patient fell into a state of syncope. This was accompanied by obstinate constipation and extreme anguish, vomiting, hiccough, cold extremities, and pulse extremely small and contracted. Various purgatives and twelve lavements were tried in vain. After having prescribed hot hip-baths, emollient cataplasms, volatile liniment, blisters, lavements, both simple and with tobacco, bleeding, Epsom salts, linseed oil, and *Opium*, I found the patient in a dangerous state, after a week's constipation, and resolved to employ *Ipec.*, of which I had availed myself in another spasmodic case. I ordered half a grain every half hour, with sugar, and after having taken six grains the patient slept quietly, and on awaking assured me he did not feel the least pain. I immediately ordered an injection, which produced copious evacuations. To clear the intestines of the impurities which had collected during the constipation, I gave him at night Epsom salts with linseed oil, which was given by spoonfuls all through the night. Next morning I found him as bad as ever, highly agitated, and restless; the purge had not acted, and an injection administered there and then was equally useless. I had recourse once more to *Ipec.*, and in a few hours he felt quite well; his bowels acted, and a diarrhœa followed which set all to rights.

"I could cite a host of instances where this remedy has succeeded in my hands as well as with other physicians to whom I recommended it for strangulated hernia. It is seldom needful to give more than four to eight grains, as above described, to obtain the desired effect. In general it greatly diminishes the vomiting at once, and after a few grains we succeed in reducing the hernia which was previously immovable. To very sensitive subjects I only give a quarter of a grain at a time." Richter, *Traité des hernies*, trad. Rougemont, Paris, 1788, p. 88.

Fielitz, a German physician, has published in Richter's *Bibliothèque chirurgicale* two observations of strangulation successfully treated by *Ipec.* In the first case, one of scrotal hernia, the strangulation had proceeded to a high degree; taxis had been employed to no purpose, one third of a grain every quarter of an hour. After the fifth grain the symptoms abated, the hernia could be reduced, and then the patient fell into a profuse perspiration. In the second case, of inguinal hernia, many remedies had been tried in vain. The patient took half a grain every quarter of an hour, the suffering soon abated, and after the sixth grain the intestine returned of itself. Some scarce works on materia medica, as Carminati, Bertele, Arnemann, have noted these effects. Petersen declares that in epidemic cholera he has seen scrotal hernia strangulated in slight cases, and when *Ipec.* was given for that one symptom *all came to rights at once* (*Ann. der Hom. Klinik.*, 1830).

In 1844 we find a later observation by Schulz. The case was one of hernia strangulated for three days in a man, æt. 28, with decided vomiting. They had not succeeded in reducing it by antispasmodics, laxatives, baths, and injections. At length it was done by the administration of a few doses of *Ipec.*, half a grain everv half hour (*Med. Zeitung in Preussen*).

It is a pity that this application of *Ipec.* has not been further verified; in ordinary practice *Tart. emetic* is sometimes used, but in the doses they employ it often acts as a poison, a disadvantage never experienced with *Ipec.* in doses. If the Brazilian drug is really curative in such cases, it will take its place usefully by the side of *Nux vom.*

This opinion may be strengthened by the fact that it has been employed with benefit several times in the *passio iliaca,* as noticed in various treatises on materia medica.

In 1787, we have notice of the iliac passion cured by injecting *Ipec.* by Michel, in a very good case of "*colique de miserere,*" published in the *Journal de Médecine.* The quantity was three drachms of *Ipec.* pounded and boiled in a decoction of arrowroot. The author at the same time published an observation of almost incessant vomiting cured by the same process; as far as I know he is the only physician who has given this medicine by injection, and there is no need to add that this way is as good as the other.

Schönheyder has recorded a case of *Ileus* in a shoemaker who had the *miserere colic* for eleven days. When he was called in obstinate constipation from the first had resisted numerous injections and castor oil in abundance. For several days everything had been rejected, the vomitings were stercoraceous and very painful, thirst considerable, abdomen neither hard, tense, nor painful to pressure. *Ipec.* half a grain every hour, from the second dose, vomiting and thirst ceased. There was, however, no stool till next day, notwithstanding the repetition of the medicine. Complete cure ensued (*Acta Hafnensia,* 1791).

We find in a work of Richter's the case of a student seized, without any known cause, with *miserere colic* for a week. After many remedies he was much weakened, yet there was no sign of inflammation in the bowels; quarter of a grain of *Ipec.* every quarter of an hour. Scarcely had he taken two grains and a half when rumbling and evacuations ensued. On account of the great quantity of purgatives given, whose effect was manifest, they gave a few drops of *Laudanum* to the patient, who was besides much exhausted. Next day he was worse; the abdomen was tense, with frequent desire for stool, in spite of injections. *Ipec.* repeated, removed the pains and brought on stools; the cure was speedy (Richter, *Med. Chir. Bemerkungen*, 1813).

Let us add that several authors have prescribed *Ipec.* for constipation. Tode and Gesenius for *obstinate* constipation. Voigtel for *spasmodic* constipation. It matches *Nux vomica* and *Opium*, whose alternate effects correspond to diarrhœa and constipation.

*Jaundice.*—The practice of administering emetics and purgatives to combat peccant humour in *Icterus* ought necessarily to lead to the use of *Ipec.* in that disease. Hardly any but German physicians have noticed this practice. In the last century Richter and Badinger prescribed it for spasmodic jaundice; then Pfundel in the *Hufeland's Journal*, vol. i; and in this century some authors on materia medica, as Bertele, Jahn, Voigtel, Sacks, and Dulk. The homœopathic school is silent on the point, besides which, the pathogenesy of *Ipec.*, setting aside the gastric symptoms, indicates nothing regarding the skin and urine in homœopathic accordance with Icterus.

(*To be continued.*)

# ON CHOREA.

By George M. Carfrae, M.D.

Chorea, or St. Vitus's dance, is described by Sydenham as "a kind of convulsion which attacks boys and girls from the tenth year to the time of puberty. It first shows itself by limping or unsteadiness in one of the legs, which the patient *drags*. The hand cannot be steady for a moment. It passes from one position to another by a convulsive movement, however much the patient may strive to the contrary. Before he can raise a cup to his lips he makes as many gesticulations as a mountebank; since he does not move it in a straight line, but has his hand drawn aside by spasms, until by some good fortune he brings it at last to his mouth. He then gulps it off at once, so suddenly and so greedily as to look as if he were trying to amuse the lookers-on." * The disease thus described is very different from that which gave origin to the term *St. Vitus's dance,* as a brief glance at the history of the disease will show.

In the year 1374 an epidemic occurred at Aix-la-Chapelle, and rapidly spread through Germany and the Netherlands, characterised by an uncontrollable desire to dance and shout in wild delirium, until the sufferers fell to the ground exhausted. They then groaned and complained of extreme depression, and were much troubled by tympanitic distension of the abdomen, which seemed to be relieved by pressure. Hence it became customary for bystanders to bind those affected with the disease with a broad band round the waist, very tightly, and very often they administered kicks and trampled on them in addition: this rough treatment seems to have been fraught with no evil consequences to the patients. The epidemic originated, Hecker † thinks, at the feast of St. John the Baptist, which was celebrated amid the wildest bacchanalian excesses: hence it was called the *dance* of St. John.

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* Sydenham's works, Syd. Soc. edition, vol. ii, p. 257.

† *Epidemics of the Middle Ages.*

In 1418 *the dancing* mania reappeared at Strasburg, and spread with such alarming rapidity that the civic authorities set themselves seriously to work to eradicate it. A convenient legend was invented by the priests, which represented that *St. Vitus* had, in answer to a prayer, received from heaven power to protect from the dancing mania all those who observed the day of his commemoration, and fasted upon its eve. St. Vitus suffered martyrdom under Diocletian A.D. 303, and the dancing mania was not heard of until the fourteenth century, so that one is at a loss in the present day to see how St. Vitus could have interested himself with such an event. The victims of the disease, however, never seem to have doubted the healing power of the martyred saint, and flocked to his shrines, where they supposed they got cured. Thereafter the dancing mania was called *St. Vitus's dance.*

About the same time that St. Vitus's dance appeared in Germany a similar epidemic broke out in Apulia, and spread like wild fire over Italy. The disease was supposed to be caused by the bite of the *tarentula,* or ground-spider, and was hence called *tarentism.* There seems to be little doubt, however, that fear of the effects of the bite had more to do with causing the malady than the actual bite of the insect, which seems very insignificant. Tarentism resembled very closely in regard to its prominent symptoms—viz., an uncontrollable desire to dance, jump, scream, and howl —the epidemics of Germany, but the means resorted to for cure were different. It was observed that the victims of the disease were irresistibly attracted by music, and that when the craving was gratified they danced till they were exhausted; after which they recovered. Hence it became customary to provide bands of music for the dancers. They had a preference for some particular kinds of music: that for example, which we now know as the *tarentella,* which originated at this period, seemed specially grateful to them.

The *Tigretier,* or dancing mania of Abyssinia, is very similar to the disease just described. An interesting account of this disease, and its method of cure, is written by an eye-witness, Nathaniel Pearce.[*] "The first remedy they in general attempt," he says, "is to procure the assistance of a learned dofter, who reads the Gospel of St. John, and drenches the patient with cold water daily for the space of seven days—an application that very often proves fatal." As in the case of the dancing mania of Italy just described, however, the most effectual remedy seems to be music. "For weeks together," continues the same author, "the patient may have been suffering from lingering sickness, and reduced to the last degree of emaciation and exhaustion, but immediately she hears the strains of music, she gradually rouses herself until she can not only move, but dance so long and so vigorously as to exhaust the musicians. She then starts off and runs till she drops. Then a young man, who had followed her, fires a gun over her head, and striking her on the back, with the flat of a broad knife, asks her name, when, if cured, she repeats her Christian name, which she has never uttered during her strange illness. She is then rebaptised, in the name of the Father, Son, and Holy Ghost, and is considered convalescent."

A disease closely allied to the *dancing mania* is said to be endemic in some parts of the north of Scotland, Forfar, Angus, Orkney, and Shetland. It is called the *leaping ague,* and is characterised by an uncontrollable desire to run or leap.

A similar disease occurred as an epidemic in the states of Kentucky and Tenessee, America, in the year 1808. The exciting cause seems to have been religious fanaticism.

The *convulsionnaires* of France may be placed in the same category.

Although the *dancing mania* has disappeared in an epidemic form, in the present day, isolated cases are occasionally met with. Mr. Kinder Wood[†] describes such an one. The patient was a young woman. She suffered for some time from headache, nausea, and involuntary and rapid movements of the eyelids. These symptoms were soon followed by more violent contortions of the body. Sometimes she would be violently hurled from one side of her chair-couch to the other. At other times she would jump suddenly to her feet, and rush round and round the room, and rap on each article of furniture as she passed it. Or again she would spring from the ground many times in succession, and strike the ceiling of the room. Noticing that these movements had somewhat of a rhythmical order, it was determined upon to try the effect of *music* on the paroxysms. A drum and fife were accordingly procured, and it was observed that she invariably danced up to the musicians as closely as she could, and kept time to the tune played. Whenever she missed the step she suddenly ceased. The same thing happened if there was a break in the tune. Mr. Wood then suggested that when the paroxysms were threatening, a continuous roll of the drum should be played so that the paroxysm might be arrested before she got out of her chair. This had the desired effect. After a time she got well. In the intervals between the paroxysm the patient was generally well enough to attend to her household duties, and she generally had good nights.

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[*] *Life and Adventures of Nathaniel Pearce, written by himself during a residence in Abyssinia from the year* 1810 *to* 1819. London, 1831, 8vo, vol. i, ch. ix, p. 290.

[†] *Medico-Chirurgical Transactions,* vol. vii, p. 237.

Thus we see that the term St. Vitus's dance has a very wide and somewhat vague signification. But inasmuch as authors of the present day are all agreed as to the meaning attached to the term, and inasmuch as the words St. Vitus's dance, or chorea, involve no theory as to the nature of the disease, it would, we think, be unwise to attempt to make any change. The meaning attached to the term chorea or St. Vitus's dance (for they are used as synonymous) is well expressed in the description of the disease by Sydenham, which was quoted at the beginning of this article. Sydenham's description of chorea, however, although a very graphic and masterly one, is not sufficiently comprehensive. His limitations, for example, as to the age of patients afflicted with this disease, are somewhat too narrow. Dr. Bazire describes a case occurring in a child six years old. Dr. West has collected a number of cases occurring in childhood, and up to the age of puberty, which illustrates the comparative liability of the different periods of childhood to its occurrence.

In a total of 556 cases, 10 occurred at or under four years, 33 between four and six years, 206 between six and ten years, and 307 between ten and fifteen years. His table also shows the large preponderance of females as contrasted with male children attacked, in the proportion of 379 of the former to 177 of the latter. Then, again, the disease is frequently seen in patients *beyond* the age specified by Sydenham. M. G. Sée has seen it in a woman 36 years old, in another 44, and in a man aged 59. Jeffreys mentions a case occurring in a patient 60 years old, and Powell and Matton another where the age was 70; while Bouteille saw a man aged 72 who was affected with the disease; and, lastly, Dr. H. Rogers describes a case occurring in a patient 73 years old. These cases, however, are comparatively rare, and it may be laid down as a general rule that from ten to fifteen is the time when the strongest predisposition to the disease exists.

Temperament and temperature seem also to exercise an influence as *predisposing* causes. Persons who have what is usually called a *nervous* temperament are supposed to be more liable to the disease than others, and Sir T. Watson thinks that girls with dark hair and eyes are more liable to be affected than those with light complexions. Dr. Hughes found it to be more common in winter than summer in the proportion of three to two. This would explain Romberg's remark that the disease becomes more rare as we approach the equator.

The presence of worms in the intestinal canal, carious teeth, deranged menstrual functions, pregnancy, fright, and in short any of those causes which are known to produce nervous derangement, may act as *exciting* causes of the disease.

The *symptoms* of chorea rarely manifest themselves suddenly; they are generally preceded by some *premonitory* phenomena. The patient becomes restless, fidgety, and irritable, or sad, and seeks solitude. The intellectual faculties are less active than usual; the memory especially being affected. There is also generally more or less derangement of the digestive organs, diminished appetite, constipation, and headache. The restlessness increases, so that there is a desire to be constantly running from place to place, and, lastly, regular choreic movements manifest themselves.

The convulsive movements generally begin in the upper extremities, and gradually extend to the facial group and to the lower extremities. In severe cases all the voluntary muscles become more or less involved, and then the patient's condition is very distressing indeed. The affection of the brachial group of muscles renders it difficult or impossible for the patient to convey food to the mouth: if he succeeded in getting the food into the mouth, the functional disturbance of the buccal and pharyngeal group renders deglutition difficult; the patient generally swallows with a "gulp." Then, again, the sphincters cease to be under perfect control, and there is inability to retain the excreta. The unmanageable and ceaseless motions of the limbs in bed cause chafing and sometimes serious wounds in those parts most exposed to the constant friction. So that, although the grimaces of a patient suffering from a mild attack of the disease are apt to excite a smile, there is hardly a more pitiable spectacle than that presented by a sufferer from a very bad attack of chorea.

Very often one group of muscles alone, or even one muscle, is the seat of disease, beyond which it does not spread. One limb alone may be affected, and there is then generally more or less weakness, amounting, in some cases, to paralysis of that limb. Or the disease may be still more limited; it may be confined to the muscles of the eyelids, and consist of a constant winking; or to some of the muscles of the head and neck, giving rise to an habitual bobbing or twisting of the head to one side. Stammering, and some coughs, which are apt to be attributed to hysteria, may be classed along with this disease.

Derangement of *sensibility*, causing formication, tingling, and, in some cases, complete anæsthesia, is frequently seen, in addition to the disorder of the muscles.

The impairment of the intellectual faculties, which we observed as a common premonitory symptom, increases as the disease becomes more confirmed, and, in some cases, the appearance of the patient suggests the idea of idiocy, and, indeed, for the time being, his appearance does not belie his actual condition.

Fortunately these complications generally disappear when the disease yields; although cases are not uncommon in which patients do not recover their wonted mental tone.

Except in severe cases, the convulsive movements cease during sleep, but they are aggravated by any kind of mental emotion; such, for example, as the presence of a stranger.

This ought to be borne in mind by the physician, especially at his first visit to a choreic patient, in order that he may make a correct estimate of the gravity of the case before him.

In the great majority of cases of chorea, the question as to the result is not so much as to whether the patient will recover as *when* he will recover. In other words, the *prognosis* is generally favorable, although there is a tendency to a recurrence of the disease.

The average *duration* of 117 cases as reported by M. Sée* is sixty-nine days. Dr. Reeves, in his summary of eighty-four cases occurring in the Norwich Hospital,† states that the shortest duration was two weeks, the longest eight months, the average seven weeks. It occasionally happens that the disease has a fatal termination. This happened in sixteen out of the 309 cases collected by Dr. Hughes.‡ Dr. T. K. Chambers relates three such cases in his *Clinical Lectures*, and Trousseau states that he has met with five or six fatal cases in his practice. Death generally takes place from nervous exhaustion. "Or the patient may die," says Trousseau,§ "of a fever similar to that which kills persons who have been burnt over a large surface, and the analogy is the more striking that this fever arises from more or less numerous and extensive wounds.” . . . . “The following case,” he continues, “which was communicated to me by a country practitioner, is an important one, as bearing on this point:

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* *Memoires de l'Académie de Médecine*, vol. xiv.

† *Edin. Medical Journal*, vol. viii, p. 134.

‡ *Guy's Hospital Reports.*

§ *Lectures on Clinical Medicine*, translated by V. Bazire, M.D. for New Sydenham Society, p. 404.

“A young girl whose mother was healthy, but whose father had been subject to eczematous eruption, and who was of delicate health herself, and had had in the preceding year eczema of the head, neck, and shoulders, became choreic. The disease grew so violent in a few days that she was unable to feed herself. Strychnine was given in gradually increasing doses (up to 1⅕ grains) in the course of twenty-four hours; it did not produce tetanic rigidity, and quieted the symptoms markedly, so that the patient was soon able to drink by herself, with scarcely any difficulty. The tip of the right thumb, however, became affected with a whitlow, which got rapidly well; but two days after the wound had healed, although the convulsions had notably improved, the child was seized with high fever and diarrhœa. Diffuse phlegmonous inflammation of the hand soon showed itself, which in less than twenty-four hours involved the back of the wrist and forearm, so that several incisions had to be made. From the outset the greatest precautions had been taken in order to prevent the excoriations which the agitation made one dread. The patient was placed on a mattress laid on the floor, and constant watch was kept over her. Later, when the convulsions became more violent, her limbs were wrapped in small cushions, and then a strait-jacket put on. The phlegmonous inflammation of the upper limb seemed to be proceeding to a favorable termination; the suppuration was less; the walls of the suppurating cavity had a tendency to adhere together; the fever had ceased, and the convulsive movements continued to improve, when fever and diarrhœa returned with greater severity. Phlegmonous inflammation attacked the lower limb also, and within two days it affected the right leg and thigh, and this time it resisted all treatment. Unhealthy pus was excreted; the skin became loose over an extensive surface; the wound ulcerated; the soft parts were destroyed, and the tendons exposed. Numbers of bullæ filled with a cloudy and purulent serosity developed themselves on the neck, trunk, and limbs, especially on the arms—some of the diameter of a lentil, and others of a larger size; ulcers formed on the lips and tongue, and in the pharynx even. The fever became more violent, typhoid symptoms set in, and the patient died about three weeks after the manifestation of the first phlegmonous inflammation.

"In this case, as the country practitioner who attended it remarked, death was the consequence of the nervous exhaustion, brought on by excessive jactitation and exaggerated by sleeplessness; for the poor child had scarcely four hours' sleep, and even then of interrupted sleep in the course of the twenty-four hours. The exhaustion was increased by this mal-nutrition of the patient, who could not feed herself, and lastly, by the abundant suppuration of the phlegmonous erysipelas from which she suffered, and the starting-point of which, like that of the bullæ, was the adynamia which was consequent on this nervous exhaustion."

A great variety of theories have been hazarded as to the *pathology* of chorea; the very multiplicity of which leads us to conclude that very little certainty exists in the matter. Some authors have attributed the disease to induration of the brain and spinal cord, others to softening of these organs; some to hypertrophy of the brain, others to concretions of various kinds therein. But all these theories are upset by the facts observed by Dr. Hughes in his summary of cases collected from *Guy's Hospital Reports*, already mentioned. In *four* out of fourteen fatal cases no disease whatever was perceptible in the brain; and in two of the cases in which the spinal cord was examined it was healthy, showing that there is no necessary connection between chorea and organic lesion of the nervous centres. This remark does not, however, apply to the theory held by Dr. Hughlings Jackson, inasmuch as the changes he supposes to be present in chorea may not be observed in even a careful post-mortem examination. The theory, although not yet verified by clinical facts, is worthy of attention on account of the admitted ability and careful observing powers of its author. He believes that the corpus striatum and the convolutions near this body are specially at fault in chorea, and that plugging of the minute vessels supplying the corpus striatum is the immediate cause of the disease. Some French writers, on the other hand, have promulgated the ingenious theory that the disease is owing to some derangement of the cerebellum. They ground their theory on the physiological doctrine which assigns as its special function to that portion of the brain the co-ordination of muscular movements. It is a *fact* that there is a want of co-ordination in the muscular movement of a patient suffering from chorea: it is *supposed* that the function of the cerebellum is to regulate and control the movements of different groups of muscles. Hence it can readily be understood that any derangement of the cerebellum will interfere with the muscular harmony, so to speak, which generally accompanies any voluntary action. Unfortunately for the theory, the revelations of the deadhouse go entirely against it. In four out of fourteen fatal cases of chorea, as we have just seen, there was no cerebral disease whatever.

Sir Thomas Watson thinks that the disease is due to derangement of the excito-motor portion of the nervous system. "From some infirm or unnatural state, either of the cord or of the incident nerves that convey impressions to it, its reflex function is called into irregular play and voluntary muscles contract independently of volition. Sometimes at the same instant the patient *wills* certain definite movements through the instrumentality of the very same muscles. But the authority of the will is impaired, and the automatic motions are proportionately strong and unruly. The consequence is that the same muscles, receiving at the same time contradictory orders from these two sources, obey neither mandate completely, but give rise by their discordant action to the grotesque and seemingly antic gestures which these patients exhibit."

There is a curious but ill-understood relationship between chorea and rheumatism which we must not omit to notice on account of its importance in selecting the remedy in any given case. Dr. Hughes says, in reference to this question, that "out of 104 cases in which special inquiries were made respecting rheumatism and heart affections, there were only fifteen in which the patients were both free from cardiac murmur and had not suffered from a previous attack of rheumatism." And again he tells us that in eleven out of the twelve fatal cases in which there was disease of the heart the sigmoid or auriculo-ventricular valves were affected. All these patients died *during the existence of chorea.* Hence he thinks that cardiac, like some other structural diseases, may act as an eccentric exciting cause of the chorea.

Dr. Todd and Dr. Begbie believe that the bond of connection between the two diseases is owing to both being caused by a diseased condition of the blood, the unhealthy blood circulating through the system giving rise sometimes to rheumatism, sometimes to cardiac disease, and sometimes to chorea. This explains the occurrence which Dr. Begbie has noticed of rheumatism in some, and chorea in other members of the same family.

Dr. T. K. Chambers thinks that considerable light may be thrown upon the question of the relationship of two diseases at first sight so dissimilar, by considering that both diseases are due to a defect of vital function in the same part. In the majority of cases of acute rheumatism, the red contractile tissue is seriously affected in its functions; in some cases, indeed, it is the only tissue affected. In chorea there is a want of control of the muscular nerves over the muscles they supply. In the one case the sensitive, in the other the motor function is injured of the same tissue. This explanation is hardly consistent with the fact that rheumatism is as frequently confined to the fibrous tissues as to the muscular. Indeed, Sir J. Watson describes rheumatism as a disease *specially* of the fibrous tissues.

The relationship between the two diseases which has been observed here does not exist at all in Germany. "The rheumatic predisposition," says Dr. Romberg, "noted by English medical men was rarely traceable in the cases which have presented themselves to my observation."

Another important point in connection with chorea is its relationship to inflammation and other *fevers*. Dr. Radcliffe,[*] who has devoted a good deal of attention to this subject, believes that chorea corresponds to the condition of *irritation* which precedes true inflammation. He considers that "trembling, tremor, convulsion, and spasm are all analogous to each other, and that they correspond to a depressed state of the circulation, which is observed only during the stage of invasion in inflammation, and which disappear when the last or true inflammatory process fairly sets in, is characterised by an excited state of the circulation in the delirium of which trembling is the distinctive feature; 'delirium tremens' is quite different to the state of the circulation in which there is no trembling. In the latter case—in the delirium of acute meningitis, for example—the skin, especially the skin of the head, is hot and dry, not cold and damp; the pulse is hard and strong, not weak and fluttering; the tongue is parched and brown, not moist and creamy;—the condition is one, in fact, of high fever, and not one which, as in delirium tremens, is more akin to collapse than to high fever. And it is not less a fact that delirium tremens loses its characteristic trembling if acute head symptoms and high fever make their appearance in the course of the disorder." In more purely spasmodic diseases, such as tetanus (idiopathic and traumatic, and as well as that produced by strychnine), hydrophobia, whooping cough, and epilepsy, again we find that the spasmodic stage always corresponds to a depressed state of the circulation. And Dr. Radcliffe has seen four or five cases of the last-mentioned disease in which, by accident, the true inflammatory stage was brought about in consequence of fracture or other injury inflicted during the fit, and in which the habitual daily fits were suspended until the fever subsided, when they reappeared with their former intensity and frequency. "Indeed," concludes Dr. Radcliffe, "as far as I have had the opportunity of judging, the constant rule appears to be that the chorea is aggravated in the initial stage of the fever—that is, in the cold stage or stage of irritation—and suspended more or less completely when the stage of reaction or hot stage is established." This agrees with the Hippocratic aphorism which says that spasms may be arrested by acute fever.

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[*] *A System of Medicine*, by J. N. Reynolds, M.D. &c., vol. ii, p. 128 *et seq.*

This ingenious explanation of the connection between chorea and fevers agrees in the main with the *facts* observed by Dr. G. Sée, who, from the extensive series of clinical observations he has made, must be considered the most weighty authority in this matter. "Of 120 cases which we collected," he says, "and in 70 of which febrile complications existed, rheumatic fever was present 25 times, and exanthematous fevers 17 times—namely, scarlatina 10 times; measles 3 times; idiopathic, ephemeral, or catarrhal fevers 12 times; and inflammations 16 times, viz., pneumonia 7, angina 3, phlegmonous inflammation 4 times, and diphtheria twice. The deductions he made as to the influence these diseases exerted on the nervous phenomena may be summarised thus:

1. If the fever attacks the patient when the chorea is declining, the spasms cease and never reappear.

2. If the chorea is not declining when the attack of fever comes on, the symptoms become aggravated so long as the premonitory and invasion stages of the fever last. When the fever is at its maximum the choreic symptoms decline, and the fever and chorea generally disappear together.

3. If the chorea has just set in when the fever shows itself, the only favorable change which takes place is during the stage of invasion.

(*To be continued.*)

# RETIREMENT OF PROFESSOR HENDERSON.

It is with great regret that we learn that the state of Dr. Henderson's health is such as to necessitate his retirement from the more active duties of his profession and his resignation of the chair of pathology which he has filled with distinction for so many years. We have never ceased to admire the courage with which Dr. Henderson has withstood all the attacks of his colleagues and the medical press to which his adherence to his professorship after his adoption of homœopathy exposed him. For years and years he resisted successfully the open and underhand attempts of almost the whole Faculty to oust him from the post he so worthily filled, and we are glad to know that his dignified and courageous resistance to all these assaults in the end procured him the esteem of some of the most virulent of his assailants.

But if some of his opponents were high-minded enough to forgive the man they had done their best to injure, and such forgiveness the Latin satirist says is the greatest proof of magnanimity, others have continued their bitter enmity to the last. Conspicuous among those who have apparently not been able to pardon Dr. Henderson for his constant and able advocacy of homœopathy is Dr. Balfour, Professor of Botany, on whom this year, in Dr. Henderson's absence through ill-health, devolved the task of giving the farewell address to the students of the University. One does not see why a professor of botany should feel himself called on to assume the character of a therapeutic partisan, or to allow his zeal for one medical school to carry him to the lengths of slighting and disparaging a fellow professor because the latter belonged to another school; but so it was. Dr. Balfour in the course of his address had occasion to allude to the resignation from similar causes, viz. declining health, of Mr. Syme, professor of clinical surgery, and Dr. Henderson, professor of pathology. His allusions to Mr.

Syme were characterised by a degree of laudation which was no doubt well merited by its subject, but which sounds extravagant when contrasted with the bald expression of sympathy with Dr. Henderson on account of the state of his health, and his complete silence as to any merit or claim to honorable mention of the retiring Professor of Pathology.

The Edinburgh University is not so flush of great men or of professors who have distinguished themselves by discoveries in science, as to be able to afford to ignore the merits of one who has added some most important discoveries to our knowledge of disease. So few facts of any moment have been added to our knowledge of diseases, by even the most eminent men in the profession, that all honour should be accorded to those who have distinguished themselves in this way. To us there is something eminently unjust in the conduct of Professor Balfour. He could not be ignorant of Dr. Henderson's claims to be ranked as a discoverer of no small merit in the field of pathology, and yet he finds nothing better to say of him, on his retirement from a chair which he has held with credit for twenty-seven years, than to offer a cold expression of sympathy for the state of his health.

In order to supply Dr. Balfour's omission, which is equally discreditable to his head and heart, for it is a blunder as well as a crime, we shall give a brief statement of the chief of Dr. Henderson's discoveries in the domain of pathology.

Dr. Henderson early directed much of his attention to diseases of the heart and large arteries. His first contribution on these subjects appeared as long ago as 1835, in the *Edinburgh Medical and Surgical Journal*, and in that paper, "Cases illustrative of the Pathology of the Heart," there is an account of a case of sacculated aneurism of the aorta in which two murmurs were remarked as originating at the mouth of the sac, by the influx and efflux of blood. The occurrence of a murmur of efflux in aneurism had not been previously noticed.

Long afterwards, in Clinical Lectures delivered in 1843 (*Edinburgh Monthly Journal,* May, 1843), (he was elected to the University in 1842), Professor Henderson, referring to this case, remarked, "Previous to that period no similar observation had been made." In the edition of his work on *Diseases of the Heart,* published in 1839, Dr. Hope remarks that "the second sound of an aneurism is occasionally attended by a feeble murmur arising from a repulsion of a portion of its blood by the elastic contraction of its walls during the ventricular diastole." But no such observation occurred in the former editions, and Dr. Williams, in the last edition of his treatise on *Diseases of the Chest,* also published since the paper referred to, has the following sentence: "If the sac be very elastic and the orifice small, there may possibly be a jet of blood to and fro, in and out of it, at each pulse and interval, causing a double whirring; but I have never seen such a case." Professor Henderson subjoins, in the lecture referred to, another instance of the occurrence in question.

In the same journal for 1836 Dr. Henderson published a paper "On the Sounds of Substernal Aneurism," in which he adduced an example of a peculiarity in the second sound of the heart as heard over the aneurism, described in the following terms: "After the slow impulse in these parts had terminated, and while the heave of the chest produced by it was subsiding, a remarkably clear and loud sound was audible, bearing a very striking resemblance to the sudden shutting of a pump-valve, in the immediate vicinity of the ear." The cause of the second sound of the heart was at the date of that paper (November, 1835) scarcely settled, and the phenomenon in question occurring in a large aneurism immediately above the heart, and well calculated to repel the blood forcibly against the aortic valves during the ventricular diastole, was adduced as a strong evidence of the truth of the conjectured origin of the second sound of the heart being the result of the sudden tension of the semilunar valves. A great intensity of the second sound above the region of the heart has ever since been recognised as a valuable addition to the diagnostic signs of certain substernal aneurisms.

In the *Edinburgh Medical and Surgical Journal* for 1837 Dr. Henderson published a paper on "Inadequacy of the Aortic Valves," in which was pointed out for the first time a character of the pulse peculiar to that malady, an observation thus referred to by Dr. Williams in his work *On the Pathology and Diagnosis of Diseases of the Chest,* 1840: "Dr. Henderson has pointed out another peculiarity of the pulse with aortic regurgitation, that the radial pulse follows that of the heart by an interval longer than usual." This kind of pulse has since been generally known as the *progressive* pulse, and regarded as distinctive of aortic regurgitation, more so, indeed, than any other sign of that state of the circulation, for the murmur which takes the place of the second sound of the heart in aortic regurgitation is not limited to that occurrence, whereas the postponement of the pulse in the radial and other distant arteries always is so. It thus forms a sure ground of diagnosis between a second murmur from inadequate aortic valves and the second murmur of an aneurism near the heart, and the second murmur from disease of the mitral orifice.

In 1844, in the same journal, appeared Dr. Henderson's paper "On an Epidemic Fever" which had recently prevailed in Scotland and elsewhere, since known by the name of "relapsing fever" and "famine fever." On this subject Dr. Murchison, in his exhaustive work *On Fevers,* observes, "Prior to the epidemic of 1843 relapsing fever was regarded as a mild modification of typhus. Dr. Henderson, of Edinburgh, in his clinical lectures, and afterwards in a paper read before the Medical and Chirurgical Society of that city, on December 6th, 1843, had the merit of first showing that the two diseases were not only very different in their symptoms, but that there was reason to believe that they arose from distinct poisons. His views were confirmed by many other observers, so that since the epidemic of 1843 relapsing fever and typhus have very commonly been regarded as distinct diseases" (p. 318). Virchow, also, in his lecture *On Famine Fever,* 1868, says, "In 1843 Henderson, an Edinburgh doctor, publicly uttered the conviction . . . . that besides the enteric typhus and the spotted fever there was a third typhoid disease, &c." (p. 12).

One additional remark only we shall make on Dr. Henderson's contributions to our knowledge of that fever. It is that he pointed out that the "head symptoms," coma and convulsions, apt to attend the jaundice which was liable to happen during the course of it, was due not to bile-poisoning but to the accumulation of urea in the blood.

In the *Edinburgh Monthly Journal* for 1841 he published a paper "On the Anatomy of Pneumonia," in which he first brought the microscope to bear on the subject, and determined the stages of hepatization to consist specially of effusion of inflammatory products into the air-cells. It had previously been disputed among morbid anatomists whether the condensation was due (more especially the first stage of it) to blood accumulated in the vessels which ramified on the walls of the air-cells so much as to obliterate the cavities of the cells, or chiefly to inflammatory effusion within the cells. In the course of these researches on pneumonia Dr. Henderson was led to conclude that the pale or bloodless state of the inflamed parts which occurred in advanced hepatization was owing to the pressure on the vessels of the cells of the accumulated exudation within the cells, and to the further conclusion that such compression of the vessels must exercise a material influence in checking the inflammatory process. This latter conclusion he afterwards applied, in his *Homœopathy fairly Represented,* to account for the large proportion of recoveries from pneumonia which follows the expectant treatment, which leaves the malady to run on to the stage of consolidation and consequent extinction of the inflammation by compression of the blood-vessels of the part affected. That such prevention of the entrance of blood into inflamed parts does put a stop to the disease has been proved by the effect of "strapping" in acute orchitis and of bandaging in erysipelas. Recently a similar advantage has resulted from cutting off the supply of blood to inflamed parts by interrupting the current in the principal artery of a limb. Thus

Messrs. Little and Jackson have tied with benefit the femoral artery in traumatic inflammation of the knee-joint, and Vanzetti, of Padua, has recommended compression of the main artery in phlegmonous inflammation of a limb; and we have somewhere read of erysipelas of a lower extremity being stopped by accidental obstruction of the femoral. Dr. Henderson's view of the effect of consolidation of the lung on the arrestment of pneumonia has, therefore, ample evidence in its favour.

In 1841 Dr. Henderson gave, in the *Edinburgh Medical and Surgical Journal,* the first account of the anatomical structure of the *Molluscum Contagiosum,* a curious disease of the follicles of the skin; and in course of some clinical lectures, published in the *Monthly Journal* for 1842, the first proof, from microscopic examination, of the existence of a true organisation in the globular polypi or vegetations which are liable to occur in the heart. Previously the organisation of all such "concretions" in the heart was either denied, as by Cruveilhier, or maintained on utterly inadequate grounds.

Besides those altogether original contributions to medical science, others but little less entitled to the same rank have proceeded from the same source, such as the "Pathology of Laryngismus Stridulus" in the *Edinburgh Monthly Journal* for 1841; the memoir *On Typhus Fever,* jointly by the late Professor John Reid, of St. Andrews, and Dr. Henderson, in which the morbid anatomy was contributed by the former, and a minute numerical analysis and description of the symptoms, as derived from 200 cases, was furnished by the latter. This memoir was published in the *Edinburgh Medical and Surgical Journal* for 1840, and since in Professor Reid's collective works, and is entitled to the merit of having clearly proved that typhus fever and the typhoid or enteric were altogether different diseases, at a time when physicians in general, and especially on the continent, either held that they were identical or were not very decidedly of opinion that they were different.

To the same class of contributions belongs Dr. Henderson's "Review of the Causes of Typhus Fever" in the

*British and Foreign Medical Review,* 1841, then edited by the late Sir John Forbes. In that article the reviewer combated the prevalent doctrine that typhus originated from the decay of organic remains, and with so much success that the editor, afraid probably of running too directly in the teeth of the professional convictions of the time, had recourse to the unusual act of appending a note to the article deprecating the possible accusation of being indifferent to the purifying processes then becoming strongly urged as the great means of preventing typhus. "It cannot be denied," says Forbes, "that the cause of fever is involved in much obscurity, and that we still want *data* on which to rest deductions which will carry with them *unhesitating* conviction. In the actual state of our knowledge it can only be said that the largest number of facts and the best arguments are on one side; but still there are facts and circumstances difficult to be explained on either hypothesis. It may, therefore, be asked why, entertaining such views, we give a place in our pages to the foregoing article, or at least to that part of it relating to malaria, able, acute, and forcibly argued as all must admit it to be; because" &c. &c., and he goes on to say that what is denied is, that malaria is the *origin* of fever, and not at all that it does not favour its diffusion, so that cleanliness &c. are as desirable in the view of the contagionists as of others.

Such is a brief statement of Dr. Henderson's claims to be considered a discoverer in the large field of pathology. If it be worth mentioning to the credit of Sydenham that he was the first to show that scarlatina and measles were different diseases (and this he did but partially), surely some merit may be claimed by Dr. Henderson for having been the first to show that typhus and the relapsing fevers were different. But it will be seen from the above statement that this is by no means the solitary claim of Dr. Henderson to the grateful remembrance of the medical world, and we have no hesitation in saying that his achievements as a discoverer in pathology greatly surpass those of any of his present or late colleagues in the Medical Faculty of Edinburgh.

We are glad to be able to give this record of the merits of our distinguished colleague, as it is so often thrown in our teeth by our opponents that homœopathists neglect pathology. When this style of argument is resorted to we can point to Dr. Henderson as not only a most successful practitioner of homœopathy, but as a distinguished contributor to the pathological knowledge of our times.

# REVIEWS.

*The Drift of Modern Medicine, an Address delivered at the Annual Assembly of the British Homœopathic Society,* June 30, 1869. By ALFRED C. POPE, M.R.C.S.E., &c. Turner. 1869.

MR. POPE's brilliant and eloquent address collects within a small compass the chief expressions and therapeutic innovations that are to be met with in the recent literature of the old school, that seem to indicate a set of the current of thought and practice towards homœopathy. We should not have considered it necessary to do more than recommend our readers to endeavour to circulate this admirable address, now that it appears in a pamphlet form, as widely as they can amongst both friends and enemies, as it is beyond doubt well calculated to impress the uninitiated with the fact that the truth of homœopathy is gradually being recognised and acted on by the leading members of the old traditional school. But an additional interest attaches to Mr. Pope's discourse from the circumstance that our contemporary the *Practitioner*, in its September number, devotes several pages to a review of it. The very circumstance of an allopathic periodical noticing a homœopathic work at all is a novelty, but that such notice should be free from the gross abuse and clumsy attempts at ridicule that have hitherto characterised the writings of our contemporaries when they alluded to homœopathy at all is, we confess, an agreeable sign of the times, and promises a new era of more courteous relations amongst members of the two schools than have hitherto prevailed. Now that two generations have elapsed since the promulgation of homœopathy, and its erection into a new school of physic, we may hope that the fierce passions that encountered it in its infancy and childhood may have been allayed by time, and that the subject will be appreciated in a spirit of fairness and moderation, that has been most conspicuous by its absence in times past.

While, however, we hail with pleasure the courteous treatment Mr. Pope's address receives at the hands of the reviewer in the *Practitioner*, and are delighted to find that the writer allows to Mr. Pope the possession of "respectable intellectual powers," and gives him credit for earnestness and sincerity, we cannot admit that the review is distinguished for fairness towards the reviewed. Indeed, the reviewer acknowledges that he has selected Mr. Pope's pamphlet merely as "a peg whereon to hang certain remarks on the present attitude of homœopathic medicine." But that being the case, we do not see what right he has to blame Mr. Pope for "ignoring the portentous character of the change which has been introduced into homœopathic practice by the tacit abandonment of infinitesimal doses." Even were it true, which it is not, that infinitesimal doses have been tacitly abandoned by homœopathists, Mr. Pope might well be excused from speaking of a subject so completely foreign to his theme, which is the "drift of modern medicine," and with which the abandonment or retention of infinitesimal doses by homœopathists does not seem to be in any way connected. Mr. Pope has shown clearly enough that the most recent practice of the traditional school, and notably the teachings of Dr. Ringer, Professor of Therapeutics in University College, lean towards a selection of the remedy on the homœopathic principle, and that the doses recommended are extremely minute compared with those hitherto in vogue. He would have been going most completely out of his way had he entered upon the subject of infinitesimal doses, and he would, moreover, have said what was precisely contrary to the fact had he admitted that there had been any "portentous change" of the kind alluded to in homœopathic practice. In respect to posology, we may inform the reviewer in the *Practitioner*, homœopathists are very much the same as they were at the time of Hahnemann's death, a quarter of a century ago, and indeed long before that time. There are some practitioners who stick to the precise doses Hahnemann enjoins, some who prefer the less diluted medicines, some who habitually give doses much smaller than those Hahnemann directs, and some who prefer to give in most cases their remedies as little diluted as possible. Those who exclusively stick to one or other of these plans are but few, for most will acknowledge that, in some cases, the higher dilutions are the best, and almost all feel the necessity of giving some medicines occasionally in pretty material doses. Of the medicines generally acknowledged to be sometimes useful in the larger quantities we may mention *Camphor, Iodide of Potassium, Mercury, Quinine,* and *Iron.*

But precisely these views and this practice have been prevalent among Hahnemann's followers ever since they existed. If anything, we should say that the average dose among homœopathists has diminished since Hahnemann's death, for it is of recent years that the partizans of the so-called high-dilutions have sprung up, who habitually prescribe the 200th dilution and upwards. But even those homœopathic practitioners who prescribe habitually the lower dilutions, or stronger doses, still use infinitesimal doses, in the proper sense of the word, and even the largest doses given by them are short of possessing the power to produce physiological action, and this is the chief, if not the sole aim of the reduction of the dose.

The "portentous change," therefore, exists only in this reviewer's imagination. We can see the complete homœopathicity of Dr. Ringer's recommendation of *Ipec.* for vomiting, and *Arsenic* for dyspepsia, and though we prefer giving these remedies in smaller doses than the drop doses he recommends, we are willing to admit that his doses may effect the desired result without causing the physiological action of the drug, while, at the same time, we could not admit the possibility of the usual doses of these medicines doing so.

Next as to the principle involved in Ringer's recommendation of *Ipecacuanha* in vomiting. If *Ipecacuanha* provokes vomiting in large doses, as is universally allowed, and cures it in small doses, as is now pretty generally admitted by modern practitioners, we have here an admission of the whole principle of homœopathy. You may say if you like that it is not in virtue of the homœopathic principle that small doses of *Ipecacuanha* cure vomiting, but that they act as a tonic. Be it so—that is simply one more theory to account for homœopathic cures. The fact remains that what guided to the selection of *Ipecacuanha* for the cure of the vomiting was its power in large doses to cause vomiting, in other words, the therapeutic rule *similia similibus;* and thus those who so prescribe it are indebted to homœopathy for the knowledge that enables them to do so. The practice has been adopted by Simpson, Ringer, and others, without acknowledgment, and the principle on which it is founded ignored. To account for the result it is asserted that a dose of one drop acts as a tonic; but is it a fact that one-drop doses are tonic? We do not believe it. The *tonic* theory was invented in order to avoid acknowledging the homœopathicity of the now admitted cure of vomiting by *Ipecacuanha.* Nay, even if one-drop doses were tonic, that would not help, for we have hundreds and thousands of observations where doses of far less than a drop sufficed to cure, and none would pretend that these minute quantities were tonic. The reviewer exposes the present tactics of the allopathic sect, which are to filch from homœopathy all the honour of its practical discoveries in therapeutics, which make up about one half of Ringer's book and a large proportion of the ordinary practice, though the majority of ordinary practitioners are not aware of this.

In another place the reviewer says that Mr. Pope "makes a large demand on our confidence in his sincerity when he propounds the idea that the changes in medical practice which the last quarter of a century has witnessed are due to the example and precepts of homœopathy." Now, we confess we sincerely share Mr. Pope's opinion on this matter, and the reviewer himself admits "the possibility that thoughtful medical men may have been helped to a tentative abandonment of bleeding, salivation, &c., in acute inflammations, by the spectacle of patients who recovered from serious illnesses of this kind under the *solemn foolery of dosing with globules which were evidently quite inert.*" (O Mr. Reviewer, whither has your courtesy fled?) But this would have had no influence on the minds of the leaders of medical progress had it not been for two other influences already at work on them, "in which lay the germ of everything that has given a special character to the altered medical practice of the present day." And what do our readers suppose these two influences to be? "Change of type of disease" one of them, of course, they would naturally think. No! our reviewer says not a word about this favourite "solemn foolery" of recent medical writers. His two influences are—hear this, ye unbelieving crew!—"the powerful speculative struggles of Brown and of Darwin"—that's one—"and the magnificent burst of John Hunter into the almost untravelled regions of comparative anatomy"—that's the other! Well, we should be thankful that the change of type of disease theory has been definitely abandoned, but for the life of us we cannot see what connexion there is between the "speculative struggles of Brown and Darwin" and the abandonment by the professors of bloodletting, or between the "magnificent burst of John Hunter" and the decline of heroic treatment. We are quite mystified and involuntarily reminded of Goodwin Sands and Tenterden Steeple. Perhaps mystification is what our reviewer wishes to produce. The change of type dodge could be and was easily refuted, but we cannot tackle those indefinite "speculative struggles" and that impalpable "magnificent burst." However, we can feel for the reviewer's position; he could not deny the change that had come over medical practice synchronously with the spread of homœopathic therapeutics; the necessities of his position forced him to deny the connexion of the two, so having nothing better to offer in the way of explanation he envelops us in a hazy mist of "speculative struggles" and "magnificent bursts" which may mean something or nothing.

If the reviewer means that it is the gradual change in physiology that has given rise to the expectant school, and that it is this school which has effected the "portentous change" observed in ordinary medical practice, we reply that this is not true. The expectant school existed long before homœopathy, and so did the sceptics and the physiologists, and yet they all failed to produce any marked impression on medical practice. The first serious change that came over the spirit of allopathic practice dates from the publication of the records of the Vienna Homœopathic Hospital. These have not yet been properly appreciated by the allopathic sect, but at any rate they gave the death blow to the prevalent antiphlogistic practice. As to the author's admission of indirect merit in showing what a do-nothing practice could effect, we can only say that the negative advantages of the practice were fully appraised by us from the beginning and separated from its positive utility, if not with absolute certainty, at least far more correctly than any of the current judgments on the subject.

The reviewer makes a charge against homœopathic practitioners which is as unjust as it is absurd, when he says, "It was and is the just reproach against them that they bore little or no part in the noble and fruitful labours of the great anatomists, physiologists, and chemists." Now, as homœopathists as such are not specially anatomists, physiologists, or chemists, it seems as unjust to accuse them of not having contributed to the advancement of anatomy, physiology, and chemistry, as it would be to speak slightingly of their acquirements in astronomy or geology. The art of therapeutics is the peculiar province of homœopathists, the materia medica is the branch they specially labour to advance, and it is to their fruitful labours in that field that the reviewer should look if he wishes to estimate their influence on medicine. This special branch of medical science engrosses them completely, and though we are satisfied that their labours indirectly advance physiological knowledge, we hesitate not to say that the genius of Hahnemann and the industry of his disciples have done more for the promotion of the great end of medical science, the cure of disease, than the researches of all the physiologists, anatomists, and chemists who have lived before or since. And yet we are not disposed to underestimate the value of these researches, in which we may be said to have borne as great a part as other enlightened practitioners who have not devoted themselves mainly to those sciences; that is to say, we have carefully studied and adopted them when proved true, and we believe our practice has derived at least as much benefit and assistance from them as that of the old school. In short, the reviewer's reproach is utterly unfounded and quite beside the mark.

If Mr. Pope in his address "adopts and consecrates the hypothesis of a separate vital principle," and his words, though obscure, may certainly be held to support such a view, all we can say is we do not agree with him; nor do we accept Mr. Pope's definition of life as anything expressing the opinions of the homœopathic school, in which there exist exactly the same varieties of opinion on that subject as are to be found in the allopathic or any other medical school. We ourselves happen to hold, and have frequently expressed, very definite opinions as to the non-existence of any separate vital principle in the old sense, and cannot understand the idea of a force separate from matter except as a mode of motion of it. So that all the remarks of the reviewer on this head fail to apply to the homœopathic school as such.

The reviewer concludes: "How much longer the sect of homœopathists will endure is one of the most difficult and uncertain inquiries possible." We can tell him. Homœopathy will retain its apparently sectarian character, which has not been sought by us but forced upon us by our old school colleagues, until such time as the leading men of the dominant medical school shall treat homœopathists as honest truth-seeking earnest men, and shall accept the evidence they offer as of equal value with that presented by otherwise-thinking members of the profession; until such time as the partizans of the traditional school shall cease to band themselves into an undignified trades union, bent on excluding us from their societies and hospitals; until such time as our opponents shall treat us with the cordiality that should prevail among colleagues who respect each other and who believe one another to be actuated by honorable motives;

until such time as they will unite heartily with us in what we have both equally at heart, the advancement and perfectioning of medical science, and especially of the therapeutic art. When this time shall come, and the article of the reviewer gives us hope that it is not far distant, there will cease to be homœopathists and allopathists, but all will be one fraternity joined together by one common aim, mutually respecting one another and assisting one another in their common labours for the weal of suffering humanity.

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*Pathogenesis of Ptelea Trifoliata. A Report to the American Institute of Homœopathy.* By E. M. HALE, M.D., Member of the Bureau of Materia Medica. Boston: Mudge and Son.

We fear that "Love's Labour Lost" must be the motto inscribed upon this proving. "Love's Labour,"—for nothing could be more thorough than the experimentation: but "Love's Labour Lost," because the result is so disproportionately meagre. It was hardly necessary to institute such provings to demonstrate that this plant, like most others, can disorder the stomach and bowels, so that "the symptoms assume the form of a severe bilious attack." We regret that Dr. Hale should have made a choice so unpromising and so resultless. The plants we want proved are those of which we already know something as medicines— those which we are using in our practice—regretting all the while how little we know of their physiological action. Such are *Æthusa, Anacardium, Berberis, Bovista, Cannabis, Clematis, Dulcamara, Guaiacum,* and many more of this kind. If Dr. Hale would send us a proving of any of these, conducted on the pattern of the present one, we would thank him cordially.

*The Venereal Diseases; their pathological nature, correct diagnosis, and homœopathic treatment. Prepared in accordance with the Author's own, as well as with the experience of other physicians, and accompanied with critical discussions.* By G. H. G. JAHR, M.D. Translated, with numerous and important additions, from the works of other authors, and from his own experience, by CHARLES J. HEMPEL, M.D. New York: Radde. London: Turner.

WE own to being agreeably disappointed with the present work. The antecedents of the author are not such as to prejudice us in his favour. That he has done much useful work for homœopathy in his day we cordially admit. But the day to which he belongs, and the stage of our system which he represents, have passed for ever. His compilations are being relegated to the upper shelves of our bookcases, to make way for more modern and (as we trust) more satisfactory work. We opened his treatise *On Venereal Diseases* with little expectation of any such addition to our knowledge as that furnished by the corresponding volume of our own Yeldham. We looked for an antiquated pathology rigidly conformed to the Hahnemannian standard; for recommendations as to remedies generally more or less theoretical, drawn from half-imaginary symptomatic resemblances; and for utter rejection of any but the most infinitesimal doses. We acknowledge at once that we were wrong; there is really nothing of this kind to complain of. The book is the work of one fairly acquainted with recent syphilography, of considerable experience in the treatment of the more common forms of venereal disease, and admitting the utmost freedom of views and practice within the limits of specific medication. It gives much information as regards treatment, and its pathological discussions are of no little interest. The only blot on the book is that the author has failed to grasp the distinction between the soft chancre,—as purely a local phenomenon as gonorrhœa,—and that which is truly the sign of syphilitic infection, the

Hunterian induration. This most luminous generalisation of the modern study of syphilis ranks with the difference between typhus and typhoid as a landmark in the progress of our knowledge, and like the latter is not to be overthrown by apparent exceptions. On the strength of such exceptions (see p. 423) our author professes himself unable to receive the now almost universally recognised distinction between the two kinds of chancre. Not only does this failing spoil (as we shall see) his chapter on bubo, but it vitiates to some extent the reported results of his treatment. It makes all the difference which kind of chancre it is when we read of its cure in a certain number of days without the appearance of secondary symptoms.

Dr. Hempel has done us good service in translating this volume for us. We think, however, that he takes too much credit to himself when he speaks of "numerous and important additions." On the contrary, we think he might have done with advantage a good deal more in this direction. Dr. Yeldham's treatise, and the various articles on venereal diseases in the English, American, and French journals—all, even the last, ignored by Jahr—might have been pressed into the service, and so the work rendered very complete.

We proceed now to give some account of the contents of Dr. Jahr's volume, and of his views and experience on the subjects of which it treats.

The first division discusses "the primary forms of the venereal diseases." These are defined to be such results of sexual connexion "as may, by transmitting the virus to susceptible parts of a healthy organism, reproduce a like series of phenomena, endowed with a like power of reproducing the original malady." This definition gives us "gonorrhœa, chancre, buboes, mucous tubercles, and sycotic condylomata, as the only really positive and fixed primary symptoms of lues venerea." Of the grounds on which the two last named are classed in this category we shall speak when we come to the chapter treating of them. At present we go on at once to the second chapter of the first division, which discusses the subject of Gonorrhœa.

This local, though infectious, result of impure connexion is well distinguished from non-specific urethral discharges on the one hand (simple urethritis) and from that which sometimes accompanies chancre on the other (syphilitic gonorrhœa). Its symptoms are fairly described, and its extensions and metastases (orchitis, prostatitis, ophthalmia, and rheumatism) mentioned. Gleet and stricture are recognised as its only sequelæ, and no countenance is given to the error of supposing that true inflammatory gonorrhœa without chancre is ever followed by symptoms of constitutional syphilis. As regards prognosis a point is mentioned which we think original, viz. that the most obstinate cases are those in which intercourse with the source of infection had been repeatedly indulged in.

We turn to the sections on treatment with interest, as the author incidentally tells us (p. 182) that "there has not been a week for the last ten years when two or three new cases of gonorrhœa have not presented themselves to me for treatment."

His results are these. After laying down the usual rules of diet and regimen—

"1. I give the patient, if he presents himself for treatment before there is any actual running, and he only complains of titillation at the orifice of the urethra, with slight redness and a scarcely perceptible secretion, barely sufficient to close the orifice of the urethra by agglutination (gonorrhœa incipiens), *Sepia* 30, two pellets morning and evening dry on the tongue, by which treatment I frequently effect a cure without any inflammation supervening, or at most without any other increase of symptoms than perhaps a more profuse secretion.

"2. If, at the time when the patient presents himself for treatment, the secretion is already quite copious, or if the inflammatory period is already more or less advanced, or if *Sepia* has had no effect within six or seven days in diminishing the incipient symptoms, I at once give in all cases *Cannabis* 3, two pellets morning and night, without paying any attention to consensual symptoms (such as pains in the testicles, phimosis, or paraphimosis, swelling of the inguinal glands, difficulty of urinating, painful erections, &c.); by persevering in the use of this agent, two, or, in very few cases, three weeks, at most, suffice to radically cure every case of gonorrhœa, together with all the consensual symptoms, provided the patient does not commit any of the above-mentioned errors of diet, and the disease is not complicated with syphilitic taint, and does not primarily owe its origin to chancre virus.

3. "If the patient presents himself after the inflammatory symptoms have entirely disappeared, and is still affected with a continual, painless, more or less profuse discharge, I commence the treatment with *Cannabis* in every case where this remedy has not yet been used, and from which I have derived excellent results in this form of gleet. In cases where *Cannabis* had almost effected a cure, but where the disease had again become aggravated in consequence of errors in diet, I again restore the normal condition of things by means of a few doses of *Cannabis.* If *Cannabis* should prove of no avail, I give in either of these two cases half a grain of the second trituration of *Mercurius vivus,* repeating this dose every three or four days, a few doses being in most cases sufficient to remove every trace of the discharge.

4. "It is only cases where a few scarcely perceptible drops are still secreted that are quite unmanageable and seem to resist all treatment." No mention is made of injections, which in such cases are quite indispensable.

This treatment of gonorrhœa is a decided advance upon that of the same author's *Pocket Repertory,* where it is stated that the best remedy for inflammatory gonorrhœa is *Cannabis* 30, three pellets, only one dose, allowing it to act about a week. But we think he will find that the size and frequency of the doses of this drug may be with advantage still further increased.

Gonorrhœa in the female, according to Jahr, yields to *Cannabis* as satisfactorily as in the opposite sex. But he also confirms the general verdict in favour of *Sepia* here after the inflammatory symptoms have subsided.

For gonorrhœal rheumatism—a very intractable disease—great praise is given to *Pulsatilla* and *Sarsaparilla.*

We come now to the subject of Chancre, with the discussion of which the only fault we have to find is the refusal to recognise the specific distinction of the Hunterian form from every other. Too much stress, in accordance with this prepossession, is laid on the ulceration of chancre, and too little on its induration, which last Lancereaux (*Treatise on Syphilis, New Syd. Soc.*, vol. i) well shows to be of its essence. Far superior, however, to the latter is the description given of the *termination* of chancre, in its bearing on prognosis and therapeutics. Lancereaux is content to say that the cicatrix is the seat of an induration, which is sometimes persistent: and that sometimes chancre develops vegetations before healing, or is even changed *in situ* into a mucous patch. Jahr, following Hahnemann,* insists that the remaining behind of any induration, even of discoloration, at the site of a chancre is evidence of its not having been radically cured. Again, he treats of its transformation into condylomatous growths or a mucous patch as indicating a new stage in its history, having a special pathology and a distinct therapeutics. All this is interesting and valuable: but we must speak especially upon prognosis and treatment.

Jahr concurs with Hahnemann and Schneider in asserting that if chancre be treated from the outset, or at any rate tolerably early, by suitable internal specifics, the supervention of secondary symptoms may be entirely averted. He of course speaks of chancre generally, but he explicitly includes the Hunterian form. He declares that "among all the patients whom he has thus treated for the last thirty years for primary syphilis, he has never seen a single sign of the syphilitic disease manifesting itself even ten or twenty years after the internal use of specific antidotes." If, however, the chancre has been out four weeks before treatment is begun, it would be rash to promise that secondary symptoms may not supervene in spite of the best treatment: but they may be expected to be mild, and readily amenable to suitable remedies.

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* See article on "Hahnemann's Doctrine of Syphilis," in the July number of this Journal, p. 390.

The treatment recommended consists almosts exclusively in the use of the preparations of *Mercury*. In ordinary cases, the *Merc. sol. Hahn.* is prescribed in doses of half a grain of the 1st centesimal trituration morning and evening: and a cure is promised in from ten to twenty days. But if the chancre is of two or three weeks' standing, and has already been treated with allopathic doses of *Mercury*, the *red precipitate* or *Cinnabar* is substituted for *Merc. sol.*, but in the same dose: or, if the chancre has begun to sprout into condylomatous growths, *Nitric acid* is given, a drop of the first dilution at the same intervals. If phagedæna appears, *Merc. corrosivus*, in the same dose and frequency, is substituted for other preparations of the drug.*

All this is very clear and simple, and fairly coincides with the advice given by Yeldham, Clotar Müller, Goullon, and Vehsemeyer, and with the general practice of our school.

The chapter on Bubo is, from the causes we have mentioned, very confused in its pathology. The all-significant indurations of the inguinal glands occurring in true syphilis are made light of as merely "sympathetic:" and all our attention is directed to the inflammatory, suppurating bubo which belongs to soft chancre. As, however, the latter is the only one which requires treatment, the therapeutics of the subject do not suffer by this error. If the bubo is sufficiently prominent to require treatment independent of that of the chancre, *Carbo animalis* will frequently check its further progress: or, should this remedy fail, and especially if the chancre be already fungous, *Nitric acid* should be given. Phagedænic bubo is alluded to, but its treatment is not given.

A chapter upon Mucous tubercles follows. These are generally classified among the secondary symptoms of syphilis. But Jahr considers that they sometimes appear as its primitive sign, and are capable of causing—not only bubo, which is admitted—but constitutional infection. He admits that they more commonly supervene upon chancre:

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* In our experience the mercurial preparations are useless if not injurious in phagedænic chancre.

and would rank them then as "consecutive" phenomena, midway between the true primary and secondary. Dismissing the allegation of their appearance as the primitive sign of infection, which is at any rate "not proven," we see no reason for detaching these mucous patches from other secondary symptoms because they are contagious. Ricord himself is giving up the non-contagiousness of secondaries.

Whatever be the pathology of mucous tubercles, their great remedy is *Nitric acid. Thuja* also, and sometimes *Lycopodium,* are said to be useful.

Into Jahr's discussion of Condylomata we will not at present enter, designing as we do to devote an article in our next number to Hahnemann's doctrine of Sycosis, considered in the light of later knowledge. We only note that he does not accept the Master's theory of the distinct nature of the sycotic virus; but confirms the general experience of the value of *Thuja* and *Nitric acid* in the treatment of condyloma, adding thereto the mercurial preparations, *Staphysagria, Sabina,* and *Lycopodium* in suitable cases. Dr. Hempel adds a case in which *Tartar emetic,* locally as well as internally, cleared away a host of these excrescences.

We now come to the subject of Secondary Syphilis, which constitutes the second division of the whole work. Under this title the author includes all constitutional manifestations of the syphilitic virus, rejecting the term "tertiary" altogether. In this we cannot follow him. The secondary symptoms of the skin, mucous membranes, and (less frequently) the eyes and bones, constitute a distinct class of phenomena, occurring usually within a few weeks or months of the primitive sign. Then come the characteristic gummy products, often from ten to twenty years subsequently, while during the interval the patient may have enjoyed perfect health. These must be classed by themselves. Mr. Hutchinson's suggestion is probably correct, that secondary symptoms, which are all symmetrical, imply existing blood contamination: while the non-symmetrical tertiaries are the result of the tissues having been formed from syphilitic blood.

Jahr's account of the secondary symptoms of the skin and mucous membranes is fairly written; less so that of the affections of the eyes and bones. He has not grasped the cardinal thought that syphilis is a true acute exanthem, having an initial fever, a rash and sore throat, and then fewer or more *sequelæ,* just like scarlatina or smallpox. But there is nothing to complain of in his description or diagnosis. As to prognosis he says that, "under a truly rational treatment, the symptoms will become gradually weaker at every successive outbreak, so that even in the worst cases the patient may be dismissed as cured, after the lapse of two or three years, provided no new symptoms have appeared for the last year."

The treatment of cutaneous syphilides, according to our author, should always be commenced with *Mercury,* if the patient has not been treated at previous stages with this drug. But the doses necessary for primary syphilis are no longer required; and a dose of the 2nd or 3rd trituration every other day is sufficient. More especially is *Mercury* to be given if the chancre, in its first stage, is still present. But if it has begun to sprout, or mucous tubercles are supervening, and then an exanthem should appear, the former symptoms should be treated, as with *Thuja* or *Nitric acid,* and the syphilide will vanish with them. If the exanthem stand alone, and the primary symptoms have been treated by *Mercury, Phosphorus, Nitric acid, Sarsaparilla,* and *Lycopodium* are recommended. All remedies for secondaries save *Mercury* are best given according to Jahr in the dilutions from eighteen to thirty. Why *Mercury* should be excepted we do not see: and we imagine that Hahnemann would frown at this faltering allegiance to the potencies on the part of his otherwise faithful disciple.

"Secondary ulcers and syphilitic rhagades" are next described. *Mercury* is nearly always their remedy: as they most frequently occur in patients where the primary symptoms have been treated without this drug.

"Secondary affections of the mucous membranes" now come under notice. They are well said to be "nothing else than secondary chancres and syphilidæ of every variety, transferred from the external skin to the mucous surfaces." Hence their treatment. When the ulcers are truly chancrous, *Merc. sol.* is given, or *Merc. corr.* if there be phagedæna; the second trituration of either is used, and not too frequently. When the ulceration is superficial only, more benefit is derived from *Nitric acid, Thuja, Cinnabar, Sulphur,* even *Lycopodium* and *Lachesis.* For syphilitic crusts and ulcers in the nose *Aurum* 3 is recommended.

Syphilitic affections of the bones are considered always to result from drugging with *Mercury,* and are best treated with *Aurum,* half a grain of the 3rd trituration every four days. Other osseous medicines less distinctly related to syphilis, as *Mezereum, Phosphorus, Phosphoric* and *Fluoric acids, Staphysagria* and *Silicia,* may occasionally be used with advantage. "I have also," says Jahr, "used *Kali iodatum* in affections of the bones, even in large doses, as recommended by allopathic physicians, and I have seen excellent effects from its use in such quantities; but they were never so lasting as the good effects obtained by means of small doses of other remedies. Usually, the symptoms yielded to *Kali iodatum* in a very short time, but returned again (perhaps in the shape of excessive effects of the drug?) in six or twelve months, which never occurred in cases that had been cured with the eighteenth or thirtieth attenuations of other drugs. This has induced me to adhere to the latter, without ever using *Kali iodatum.*"

Here the satisfactoriness of the book ceases. To the important affections of the tertiary period—the "gummy products"—whose study occupies one half of Lancereaux's whole treatise, Jahr devotes but ten pages. He acknowledges to having seen but two cases, and those both external. One was cured by *Silicea.* He accordingly makes no attempt to grapple with the rationale of the undoubted efficacy of large doses of *Iodide of Potassium* in these diseases.

The third division consists of "General Pathological Observations on Syphilis, and its course generally." There is much that is interesting here: and the author's doctrine on the whole is sound. The points on which we apprehend that modifications will be required are, 1st, the identity of the two kinds of chancre; 2nd, the non-contagiousness of secondaries, and hence, 3rd, the placing of mucous tubercles with condylomata in a separate class; 4th, the mixing up of secondary and tertiary symptoms; and 5th, the impossibility of radical cure taking place spontaneously.

The fourth division is entitled "General Therapeutic Observations on the Treatment of Syphilis." In it are contained some valuable remarks on the diagnosis between the effects of syphilis and those of *Mercury*. Otherwise it consists of the scheme of treatment already laid down, followed out into greater detail. It is curious to notice the absence of any attempt to show the homœopathicity of the drugs to the forms of disease for which they are recommended.

We commend this latest work of the veteran author to the best consideration of our colleagues.

## CLINICAL RECORD.

### *Hay Fever.* By Dr. Kafka, of Prague.

This affection only appears at a certain season of the year, namely, in spring, from May till the end of June, and seems to stand in closest relation to the growth and cutting of the hay.

It consists in a peculiar catarrh of the nasal mucous membranes, which is manifested by continuous fits of sneezing, attended at the same time by the flow of a watery, and at times acrid, secretion from the nose.

The catarrhal inflammation is apt to leave traces of erysipelas on the external surface of the nostrils, and to be associated with some amount of feverishness, violent and often insupportable headaches, considerable weariness of the limbs, and also dejection of spirits. The symptoms are generally relieved in cool weather, whilst at a high temperature and during exposure to the sun they reach their acme. During the progress of the complaint, which never extends beyond the month of June, repeated attacks of epistaxis and disturbance of the night's rest are wont to appear as accessory symptoms, in consequence of the frequent fits of sneezing. All symptoms of this malady cease suddenly in the beginning of July, that is, at the time when haymaking is quite at an end, and the patients keep free from attacks all the year round until the following May, when hay fever breaks out again.

In the May of 1866, at the time of the Prussian invasion of Bohemia, I was consulted by a lady from the country who wished to place herself under homœopathic treatment for this affection. For some years past it had recurred regularly every May. She had been treated by the most celebrated physicians of Vienna and Prague without benefit, and expected relief from homœopathy. The symptoms were nearly the same as those above described. The patient was in favorable circumstances. On the 28th of May I sent her *Belladonna* 3 in powder, with instructions to take one morning and evening, to remain as much as possible in the shade, and to expose herself as little as possible to the heat of the sun.

After a fortnight's use of this remedy the nasal secretion was less acrid, the erysipelatous inflammation of the external nares had entirely disappeared, and the headache and sleeplessness had ceased. But, nevertheless, the frequent attacks of sneezing, the profuse but unirritating secretion from the nose, and the dejection of spirits, continued. After this visible improvement in the patient's condition I gave *Pulsatilla* 3, later on *Conium* 3, and, lastly, *Sulphur* 6, each medicine to be taken twice a day and continued for eight entire days. The results were negative. The last-named symptoms did not cease till the end of June, when all the hay in the neighbourhood had been fairly housed. I ascribed the inefficiency of the treatment to the important circumstance of the patient's living in the midst of the turmoils of war, and consequently being in a continual state of excitement.

In the meanwhile another means of explanation had been discovered. The celebrated physiologist Helmholtz had suffered regularly from hay fever, at a particular time, since 1847. During the last five years, so it is reported by Binz in the 46th volume of *Virchow's Archives*, he carefully examined the nasal secretion and found in it little bodies shaped like vibriones, which showed very lively movements in the object-glass. It was only the nasal secretion that was actually got rid of by sneezing that contained vibriones, whilst that which flowed from the nostrils spontaneously and was parted with after the complaint had ceased was free from these animalculæ.

From this circumstance Helmholtz concluded that the malady had a parasitic origin, which was deeply seated in the nasal fossæ As, in the meanwhile, he was acquainted with Binz's method of killing the parasites with *Quinine,* he turned it to account in the following way. He prepared a saturated neutral solution of *Sulphate of Quinine* 1 : 740, which was still sufficient to cause a moderate sensation of burning in the nostrils. He allowed about four centigrammes to flow into each nostril by means of a pipette whilst lying on his back with his nostrils elevated. By moving the head from one side to the other he tried to make the solution flow round in every direction, and on rising what was left flowed over the velum palati into the gullet.

The wished-for results were immediately obtained and lasted for some hours; Helmholtz was able to bear the heat of the sun without any fits of sneezing. A repetition of this process three times a day sufficed to ward off the attacks under the most unfavorable external circumstances. The vibriones were absent in the secretion. Helmholtz used the remedy in 1847 and 1848; in the latter year he employed it at the very beginning of May, and it succeeded in suppressing the further development of the complaint.

Helmholtz left the publication of this interesting fact to Binz, who communicated it, together with the description of the vibriones, and in the 33rd number of the *Wiener Medic. Wochenschrift,* 1869, there is an abstract of this communication.

The result of this highly important discovery is that internal treatment for the relief of hay fever is inefficient, and that this affection, which has a parasitic origin, can only be cured by destroying the parasites.—(*Neue Zeitsch. f. hom. Klinik.*)

## *Gout in an Aggravated Form.* By Dr. Hirschel.

When I undertook the case of Mr. v. W— (in August, 1867), I found him in the following condition:—He was lying on his back, with his knees completely bent, with his arms drawn closely into his chest; stiff and immovable in all his limbs and joints. He was unable to stretch or to bend his legs and knees; the bony and cartilaginous parts of the knee- and ankle-joints were thickened, together with the synovial membranes; the capsule of the joints filled with firm exudations, the tendons stiffened and of a bony hardness. The shoulder- and elbow-joints were in a similar condition, so that the patient could not make the slightest movement with the shoulder or forearm, but was compelled to keep the upper extremities continually drawn to the side of the chest. There was some stiffness, also, of movement in the neck, so that he could not turn his head fully round to one side or the other. His hands showed the well-known crooked shape of fingers met with in the aggravated form of gout in the arms, with swelling of every single phalangeal articulation; the thumb rose up immovable as the rest, above the contracted fingers, the tips of which lay in close apposition to the ball of the thumb. Small rolls of linen lay in the little hollow space, to avoid the painful movement of the surfaces, and to prevent any further deformities.

In one hand the patient held a small stick, by which he was enabled, with the slight motile power that remained, to keep off the flies from his face. Pieces of linen also lay between his knees, to prevent the involuntary painful movements that occurred spasmodically. He was obliged to be fed like a child, and obliged to be read to, because he could hold neither book nor paper, nor even turn over the leaves; in short, he was helpless in the extreme. V. W— was wasted to a skeleton; there was merely skin and bone, tendons and muscular fasciculi; of flesh and fat there was none, so that the calf of the leg was represented merely by an empty, flabby flap of skin, which hung down from the tibia. His face, though thin like the rest, and encircled by a large white beard, wore a better aspect nevertheless, as his complexion was improved by the beard and sufficiently lively in colour under the circumstances, which could not but inspire with the deepest sympathy even the physician himself, accustomed as he is to scenes of suffering. For the wretched patient lay day and night, fettered, as it were, in this immovable position; every movement to one side, every single turn of his body, had to be dearly bought with suffering, though helped as he was by two assistants; indeed, the patient was never without the constant attendance of one nurse. As for sitting, it was out of the question, for the patient's back would not bear him, and the necessary power of flexion in the pelvis was gone. The whole change which was undertaken by the patient for shifting his position was the removal from one bed to another, and this at the price of hours of suffering.

In the garden, even, where the patient was taken to breathe fresh air, he lay stretched out. Moreover, he complained of persistent pains in the loins and gouty sensations in the joints; at times, too, especially at night, neuralgic spasms occurred in the remnants of his muscular tissue, which was in convulsive motion. His nights were passed entirely without sleep unless he used opiates, which finally the homœopathic physician even had given to palliate his sufferings, as every other remedy had ceased to influence him. The appetite was poor, the bowels constipated, and required at times artificial means to relieve them.

Under such circumstances as these his spirits were naturally depressed, and it was only the appearance of a new physician that could bring a ray of hope to this gloomy situation, for Göthe is quite right when he says (in the *Jahrmarkt von Plundersweilen*)—

> "The patient is nought but tinder and stuff
> On whom a fresh doctor works wonders enough."

Now, I had not reckoned on working wonders, but nevertheless I obtained results which at that time were by no means anticipated. I tried first of all to wean the patient from his opiate (powdered *Morphia*), as this was an obstacle to medication of every kind. At length the patient made the effort, but the sacrifice of two nights' rest induced him to return to it. I prescribed, therefore, ten drops of the *Tinct. Sedativa Magendie*, a preparation by means of which, as I told the patient, one would be in a position to lessen the dose by degrees. I gave him a long course of *Silicea* to begin with, but without any effect. To balance this, I had the satisfaction of using *Chamomilla* with good results for the convulsive movements, a medicine which he had not taken. This remedy acted well for some time after to control this condition, and its effect was so soothing to the patient that he told me not long ago that he never would have taken *Opium* had he known of this medicine. So we were really able by degrees to come down to 8—6 drops of the *Tinct. Sedativa.*

In the meanwhile, however, I began the *Iodine* treatment in October, which, according to my method already described in this Journal, I had found beneficial in similar cases. I first dissolved six grains of *Iodide of Potassium* in two ounces of water, a teaspoonful to be taken morning and evening for a fortnight, then to leave off this medicine for a fortnight, and return to it again for a fortnight in the above-mentioned way. At the end of a month even a favorable impression was made, first on the stomach, for the appetite increased, and then upon the pains, for they materially diminished, so that a fresh reduction in the dose of *Opium* was able to be made, and, indeed, the use of it was abandoned altogether for some days. There was a perfect jubilee when at Christmas it was found that the thumbs, and then the ring and index fingers, were somewhat more pliant, as the patient began to open the hand in saluting me, and also to reach out his finger to me. The appetite kept continually improving, the patient became more cheerful, nutrition commenced, the calf of the leg first showed signs of muscular increase, by less flabbiness of tissue; then the back, gluteal regions, &c.; the face recovered expression and colour. The patient could sit up a little even in January; later on eat and take his tea in a sitting posture, a luxury which had long been denied him. Then in February I fell ill myself. My colleague who represented me prescribed other remedies, which did not answer. When another colleague, who came in this one's stead, returned to the *Iodine* treatment at my suggestion, but who adhered to the earlier doses, the state of matters was tolerably stationary until I myself resumed my duties in June, 1868, and, rejoiced as I was at the visible improvement that had taken place in the patient's nutrition in the interim (leanness in certain circumstances is no contra-indication to *Iodide of Potassium*), proceeded to give a stronger dose—half a scruple to two ounces of water, a teaspoonful twice daily for a fortnight, with a fortnight's intermission of medicine, as above. The results were apparent. From this moment the pains decreased to a fractional amount, appearing at rare intervals (*Opium* had long been given up); the spasmodic movements seldom returned, and immediately yielded to a few doses of *Chamomilla;* the progress of nutrition was marked by the deposit of fat on the body; power of motion increased more and more, especially in the hands and arms, so that the patient learned by degrees to sit up for hours together, to hold a pencil or a fork, finally a pen, and to write, to take his meals alone, to raise himself without help, to turn round on every side, to lie on one side, and finally to move the upper arm and shoulder from the trunk, and to lift his hand up to his head. In the beginning of the winter v. W—, to the astonishment of his friends, who knew that he was crippled, went out in a chair on the streets and promenades of the town, in spite of all kinds of weather; had an excellent appetite and slept well; wrote whole sheets full of manuscript in a marvellously neat hand, and was a zealous correspondent. By the middle of the winter he worked at literature for an hour together at his study-table, gave audiences to young ladies of a scientific turn of mind, and made preparations for resuming the duties of his office. As there was some tendency to diarrhœa, we omitted the *Iodide of Potassium* from that time forward. And as, on account of the great contraction and swelling of the knee, the patient was quite unable to walk or to stand, by the help of a practised teacher of gymnastics I induced him instead to make various attempts at extension and flexion every week, but these produced a favorable impression on the upper extremities only. The spasmodic attacks frequently returned in the changeable weather in May. *Chamomilla*, in this instance, did nothing for the patient, and a change had to be made to *Secale*, which gave immediate relief. Since the beginning of June he has resided in Teplitz, to soften the exudations in the joints, to reduce the gouty swelling, and in this way also to bring the lower extremities into action.

Though the present communication has not the good fortune to announce a complete recovery, yet, under the circumstances in which the treatment was carried out specifically, in accordance with homœopathic principles (the dose even was relatively small), such improvement as took place in so severe a case of gout has rarely been recorded, and as a proof of this is the attention awakened in those who had seen the patient in his earlier deplorable condition.—(*Neue Zeitsch. f. hom. Klinik.*)

## *New remedy for Ague.*

Recently, in Spain, a new medicine has been brought forward for *intermittent fever*, which is said to be infallible. Of course, in such cases, exaggerations are to be expected. Still, letters that have been written to me by friends allege that the remedy, in many cases, has proved highly efficacious. It belongs to the genus *eucalyptus*, belonging to the myrtle family—*eucalyptus globulus*—a tree which, in Australia, attains a height of from 300 to 400 feet, and a corresponding thickness. Of late it has been much cultivated in Spain, where it flourishes. The growth is so rapid that a specimen in the garden of a German resident in

Seville in four years attained a height of seventy-five feet, and a seedling plant in Paris grew to the height of fourteen feet in one year. The young plants resemble the *euphorbia lathyros;* but their smell and taste is very aromatic. It is used in the form of a weak infusion of the leaves like tea, and it is said to be much sought after in Spain. It is used, not only in fevers, but also in phthisis in the first and second stages. As a proof of its antifebrile power it is stated that, in Australia, even in marshy districts where this tree and its numerous allied species grow, ague is one of the greatest rarities. As yet I have only had an opportunity of giving it in three cases. Two had lasted a considerable time and were of quotidian and tertian types; they were rapidly cured; but the third, which was associated with chlorosis, was only cured by the employment of *Pulsatilla* and *Ferrum.* I gave the tincture prepared from the fresh leaves, several drops for a dose. Such being the effects of *eucalyptus globulus* it would seem to be worth proving.—(*Allg. hom. Zeit.*, vol. 78, p. 46.)

### *Causticum in throat affections.*

I believe I have discovered some important curative indications for *Causticum* from two cures recently effected with this remedy. The first case was that of a female singer, who complained of *burning* pain in the throat, with constant inclination to clear the throat, and much expectoration, much mucus about the upper parts of the respiratory passages. On looking into the throat redness of the uvula and fauces was observed. No difficulty of swallowing; no swelling of the tonsils. *The pain in the throat was aggravated by stooping.* A moveable gland lying on the right thyroid cartilage pains on being pressed, that part is altogether sensitive to touch. The voice at first sounded as if affected with catarrh. No fever. Abundant expectoration followed the administration of *Hepar sulph.* It was not until I gave *Causticum* 3 (5 drops in 50 grammes, a teaspoonful every two hours) that this subacute catarrh was removed, although the patient did not omit any of her rehearsals or performances, and exposed herself to fresh chills in the worst weather and cold autumn air. The action of *Causticum* was rapid, was perceptible in twenty-four hours, and gave much delight to the patient.

The second case was also in a woman who had suffered for more than a year from her throat. She was corpulent, stout, and fat. The pain in the throat did not proceed from swollen tonsils, and *was not caused by swallowing*. It was of a *burning* character, like the former case, and seems to arise from the chest, and to be worst at the side of the throat where the soft parts pass into the lower jaw (submaxillary region). The burning throat pain is on both sides and *internally*, so that the patient likens it to, or confounds it with, heartburn. Motion aggravates, *and like the first case it is decidedly increased by stooping*. This troublesome symptom went off in *both* patients after *Causticum*. This woman who had suffered for upwards of a year from her sore-throat, which must have been intrinsically different from the former case of subacute catarrh, was in a month pretty well, and was sensible of the great progress she had made. I repeat that hoarseness did not attend the sore-throat in either case, so that it appears that the *burning pain* and *aggravation by stooping* suffice to indicate *Causticum*.—(Dr. H. Goullon, jun., in *Allg. hom. Zeit.*, 9th November, 1868.)

## *Kali carbonicum in Menorrhagia.*

There is a malady very difficult to be cured by allopathic means, which may indeed be regarded as the real *crux medicorum*, I allude to the hypermenorrhœa of married and single women, when it is to such a degree that the catamenia continue to flow for weeks and even months. In such cases the old therapeutic principle *contraria contrariis* proves utterly inadequate. The inefficacy of the so-called antihæmorrhagic styptics in checking the discharge is made clearly manifest. The *Mineral acids*, *Preparations of Tannin*, *Secale cornutum*, *Alum*, &c., are all complete failures. The doctor usually adds the senseless advice to eat largely of nourishing food so as to replace the blood quickly. Indeed, these one-sided practitioners become so inconsistent that they will one day prescribe eggs, beefsteaks, ale, and red wine, and the next put the patient on a very meagre diet. Far otherwise is it with the practitioner who is conversant with the good effects of homœopathy. In *Kali carbonicum* we possess a true specific for such long-lasting hæmorrhages. It seems to me best adapted to discharges having more of the arterial character (bright red), and to the sanguine temperament, but it may be given with confidence in any case of profuse menstruation.

We can easily understand the importance of speedily mastering such hæmorrhages. Apart from their demoralizing, depressing influence on the mind, we have to dread real organic changes, if the malady persists. As we know accurately the actual seat whence the menstrual discharge proceeds, so also we know what anatomical regions, what elementary tissues, *Kali carb.* corresponds to in its physiological-therapeutical action.

As regards the dose, we should administer the 12th dilution, a drop night and morning in water, and the effects will surprise us. —(Dr. H. Goullon, jun., in *Allg. hom. Zeit.*, 14th Dec., 1868.)

## MISCELLANEOUS.

### *Experiments to ascertain the action of Mercury on the Biliary Secretion.*

If any belief in the medicinal virtue of drugs was held to be well grounded, not only by the old school practitioners but, by their patients and partizans outside the profession, it was the belief in the cholagogue or bile-compelling power of *Mercury*. So much was this the case that *Mercury* was held, both by medicals and non-medicals, to be *the* liver medicine *par excellence*, and by many was believed to be the only remedy for defects in the biliary secretion. An instance of this occurred to ourselves a short time since. We had, under our care a patient in an advanced stage of hepatic disease, whose biliary secretion was very deficient. One day one of his relations, considerably beyond the age of forty, when, according to the saying, a man is either a fool or a physician, asked us our opinion regarding the nature of the complaint, on hearing which he said "Of course you are giving him *Mercury*." On our answering in the negative, he exclaimed, with unfeigned astonishment, "Then how the doose do you mean to act on the liver?" Such being the universal belief as to the effects of *Mercury* on the liver, it must have appeared to most a work of supererogation to institute any elaborate and troublesome experiments in order to ascertain whether or no *Mercury* had cholagogue properties. Still, such is the prevalent scepticism among the faculty that even this belief has been recently brought to the crucible of experiment and actually tested as carefully and critically as if there was a doubt on the subject. In thus tackling a deeply-rooted faith our medical colleagues have acted as scientific men, and, however prejudiced they may have been in favour of the traditional idea, they have gone to work with an earnestness which deserves infinite credit. Peter Pindar, it will be remembered, while making himself merry at Sir Joseph Banks's expense, credits the philosopher with a desire to put his theories to the crucial test of experiment. Thus, though Sir Joseph is represented as believing implicitly that fleas are but young lobsters, Peter represents him testing this notion by boiling the smaller animals to see if they did not turn red, and on finding that they underwent no alteration in colour he gives vent to his mortification in the exclamation, "Fleas are not lobsters, d—— their souls!" So, many of the adherents of old physic, reading the account of the experiments performed by Dr. Hughes Bennett and his committee, in finding that *Mercury*, which they regarded and fondly talked of, as their "sheet-anchor" (how droll a sheet-anchor made of quicksilver would be in reality) in all cases where the liver was inactive, must now be disposed to sigh with Peter Pindar's P.R.S., "There goes my hypothesis to ——!"

The experiments of the Edinburgh Committee, of which Dr. J. Hughes Bennett was convener and reporter, extended over a period of two years. The animals subjected to experiment were dogs; the reasons for their selection in preference to cats, sheep, pigs, asses, or horses are given, and are, to our minds, satisfactory. Preliminary to the experiments it was thought desirable to ascertain if dogs were affected by *Mercury* similarly to human beings, and for this object a number of dogs were dosed with various mercurial preparations, and it was found they were quite satisfactorily sensitive to mercurial poisoning and presented symptoms sufficiently analogous to those seen in man. It was remarkable that frictions with mercurial ointment on the shaved skin seemed to produce little or no effect. May this negative result not be owing to the fact that the dog does not perspire through the skin like man and is consequently less susceptible of medicinal action through the skin than his master? In the animals experimented on biliary fistulæ were established and an apparatus fixed so as to collect the bile secreted each day. Minute descriptions are given of the mode of performing the operation, and of the machinery used for collecting the bile, and most minutely detailed registers of the quantity of bile excreted each day, and the other pathogenetic effects produced by the drug adminstered to each dog are given. These want of space precludes us from quoting, so we must refer our readers to the *British Medical Journal*, of the 8th May last, for a full report. We cannot, however, refrain from giving the conclusions of the committee with regard to the cholagogue action of *Mercury*. Here they are:

"*Conclusions regarding the Cholagogue Action of Mercury.*—The foregoing observations seem to us clearly to show that *Blue pill*, *Calomel*, and *Corrosive sublimate*, when given to dogs in either small, gradually augmented, or in large doses, do not increase the biliary secretion; they do not even influence it so long as neither purgation nor impairment of health are produced, but they diminish it as soon as they produce either or both. It may be urged that, although we have proved this regarding dogs, it does not follow that on man these drugs will have the same action. It must be admitted that some animals are altogether insensible to remedies which produce powerful effects on others; that different doses are often requisite to occasion similar results; and that there may be peculiarities so very decided as to render it impossible to infer what will be the action of a remedy on one animal from its influence upon another. But have we any reason to conclude that in the present instance there exists such difference in the action of *Mercury* as to prevent any inference being drawn from the dog regarding man? All the facts with which we are acquainted show that it is legitimate to infer that the action of *Mercury* ought to be regarded as similar in both cases. We have demonstrated that, as regards its action upon the salivary glands, mouth, intestine, appetite, and general nutrition, the influence of *Mercury* is the same. We therefore infer that it is in the highest degree probable that its action on the hepatic secretion will also be the same. The only difference that there seems to be between the dog and man as regards the action of *Mercury*, consists in the fact that in the dog larger doses are generally required to produce the same effects as those observed in man. But even here it may be argued that more marked results are required to satisfy the observer, and hence the greater dose necessary. These circumstances, therefore, cannot be held as affecting the conclusion at which we have arrived.

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"But it may be supposed that *Mercurials* possess some specific power of exciting the biliary secretion by acting on the orifice of the common bile-duct, and so stimulating the secretion through the nerves which connect it with the liver, just as pyrethrum and vinegar stimulate the salivary glands when they are applied to the orifices of the salivary ducts. It might also be objected that, inasmuch as in our experiments the common bile-duct has been divided, the nerves alluded to might have been so injured that stimulation of the orifice of the common bile-duct could no longer excite the secretion. It remains to be shown, however, that *Mercurials* do specially excite the orifice of the bile-duct. It is not probable, at any rate, that their influence on the biliary secretion was, in the cases of dogs, 6, 7, and 8, prevented by division of hepatic nerves. In these experiments the common bile-duct was simply divided with as little injury to neighbouring parts as possible (in previous experiments a portion of the bile-duct was removed), and these animals did not suffer in the least from the shock after the operation; so that nervous injury could not have been extensive. Moreover, in the case of dog 7, the parts around the common bile-duct were dissected after death, and the nerves proceeding from the solar plexus to the liver were found at some distance from the duct, and had apparently suffered no injury at the place where it had been divided. The Committee, therefore, do not attach any value to this objection.

"But some may say that, although we have proved that *Mercury* diminishes the biliary secretion in dogs, and that in man its action will in all probability be the same, yet our experiments have been performed on animals in a state of health; and that had they been made on dogs with diseases such as those in which *Mercury* has been *supposed* to increase the hepatic secretion, it would possibly, in the case of such dogs, have been increased. With such an hypothesis we need not seriously occupy ourselves until the objectors *prove* that, in any case whatever, *Mercury* can increase the biliary secretion in man.

"We have been unable to discover any facts brought to light in this or any other age which prove that *Mercury* stimulates the biliary secretion. So far as we can make out, the notion that it does so originates in some vague statement made by Paracelsus, or the authors of his time, as to the good effects of *Mercury* in what he has called 'icteritia.' But we repeat, not only do we not know how such a notion has arisen, but we are ignorant how to make direct observations on the subject in man. We have already stated that such observations are, in the present state of physiological chemistry, impossible. We do not deny the possibility of *Mercury* being useful in some diseases of the liver. We simply say that the notion of its doing good by increasing the biliary secretion is untenable."

Our readers cannot fail to be amused at the last two paragraphs of this report. There is, of course, no fact better ascertained in medicine than that diseases characterized by a deficient secretion of bile are often rapidly cured by *Mercury*, but then to admit this in the face of the proved power of *Mercury* to diminish the biliary secretion would be, as Dogberry would say "flat" homœopathy, a thing "most tolerable and not to be endured."

Other experiments were made by the committee with *Podophyllin* and *Taraxacum*, the results only of which we shall give in the language of the report:

"1. Doses of *Podophylline*, varying from two to eight grains, when given to dogs, diminished the solid constituents of the bile, whether they produced purgation or not.

"2. Doses which produced purgation lessened both the fluid and solid constituents.

"3. During an attack of dysentery, both the fluid and solid constituents of the bile were greatly lowered.

"4. Doses of the solid extract of *Taraxacum*, varying from 60 to 240 grains, affected neither the biliary secretion, the bowels, nor the general health of the animal."

## *Physiological Effect of the Iodides of Potassium and Sodium.*

M. Rabuteau has lately made some experiments on the *Iodides of Potassium* and *Sodium* which have a direct therapeutic bearing. He dieted himself for the space of a month, as far as possible, upon the same kind and quantity of food, and found that he eliminated from 325 to 375 grains of urea daily. He then took 15½ grains of *Iodide of Potassium* daily, and found that the quantity of urea daily excreted fell to between 201 and 294 grains, and a similar result was obtained with the *Iodide of Sodium*, the diet in both instances continuing unchanged.

The absolute quantity of urine discharged was not increased unless, owing to dryness of the throat, more water was ingested. Now, since *Arsenic* taken in small doses occasions the same changes in the urine, and both this and the iodides cause an increase of appetite and a tendency to the deposit of fat in the body, M. Rabuteau proposes that they should be employed in combination where no counter-indication exists, as remedial means, especially in phthisis, in intermittent fevers and articular rheumatism, whilst they may be also combined with well-known specifics, as *Quinine*, &c. In gout *Iodide of Potassium* in large doses is of value on account of its solvent powers on uric acid.—*Practitioner*, September, 1869.

[In our school the diminution of the urea would seem the valuable part of the above, and gives a hint for the homœopathic use of the iodides in gout as specifics, not as chemical solvents. —Eds.]

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### *Variety of opinion respecting the Nature of Exophthalmic Goïtre.*

At the forty-second meeting of German Naturalists, held at Dresden, in September, 1868, the "disease of Basedow," or, as we call it, "exophthalmic goitre" was discussed in the medical section. The gentleman who brought it before the meeting described its chief symptoms to be strong palpitation of the heart, swelling of the thyroid gland, and prominence of the eyeballs. He then enumerated the principal theories that had been broached as to this disease. Basedow, who gave his name to the disease, considered it a pathological process, *sui generis*, depending on a dyscrasia analogous to chlorosis, whereas Piorry looks on the goitre as the chief cause, the palpitations and the exophthalmos being secondary consequences. Trousseau refers all the symptoms to irritation of the sympathetic nerve. Friederich holds the cause of the disease to be paralysis of the vaso-motor fibres running in the sympathetic nerve. The author himself said he had met with only one case of the disease and, consequently, could not venture to propose a theory of his own ; it seemed to him as if the nervus vagus was, to a certain extent, powerless against the increased cardiac action, wherefore he directed the continuous galvanic current through it, and he found that in the ensuing five minutes the pulse became slower by from five to ten beats. During the discussion which followed on this subject one of those present mentioned Gräfe's view, which he said he agreed with. The illustrious Berlin oculist considers the disease of Basedow to consist in a spastic affection of the levator palpebræ, with depression of the level of vision, whilst the goitre was often absent. Gräfe cures the disease completely by division of the levator palpebræ. In face of this conflicting and distracting diversity of opinion our organopathic colleagues would find some difficulty in selecting the appropriate remedy.

## *Belladonna in Traumatic Tetanus.*

On June 4th I was called to see Willis, a freedman, about sixty years old, who was reported to have the lock-jaw. Upon visiting him I found that he had stepped upon a nail about two weeks previous, but that for three or four days subsequent to the accident he had continued his work, only troubled by an occasional pain shooting up the limb. The pain increased until he had "cramps," as he called them; first, of the flexors of both limbs, then the abdominal muscles became involved, until his body approximated in shape to an S or a Z. At the time of my visit the muscles of mastication and deglutition were also affected, and to such a degree that a sudden noise, a laugh, or an attempt to move or speak, or to drink, would induce a spasm. His jaws were so firmly and closely fixed as only to admit a case knife between his teeth, and all nutriment was necessarily taken in a fluid state, and in very small quantities. He was quite restless, anxious, very weak from scanty diet, and almost sleepless. His thirst was considerable, but such was the difficulty of swallowing that he drank very little. He had little hope of relief, as some kind friend (?) had informed him that but one man had ever recovered from the lock-jaw. Upon an examination I found the wounded foot and limb considerably swollen, the wound healed up, leaving only a dark spot very slightly tender, and upon reopening it only a few drops of dark blood escaped.

℞ *Belladonna* 30, five drops to half a glass of water, a teaspoonful every hour. A slice of bacon to be applied to the wound.

I called again in the afternoon, and found him somewhat more comfortable.

June 5th.—Decidedly better; paroxysms fewer and shorter. Treatment continued.

6th.—He meets me with a grin, to show how loose his jaws are, as he can get them about a third of an inch apart. He now sleeps pretty well. Treatment continued.

7th.—Still improving; reopened wound and applied a bread poultice. Treatment continued.

16th.—Received *Arsenic* 200 for œdema of the lower limbs, after which, without further treatment, he entirely recovered, and is now (November 15th) as hale an old man as you could wish to see.—(Dr. E. P. Angell, in *American Journal of Homœopathic Materia Medica*, January, 1869.)

### *Caladium in Pruritus Pudendi.*

Dr. Scholz, of Breslau, relates two cases—1. A girl, four years old; violent itching on the external genitals, which compelled her to scratch, severe punishment could not prevent her from doing so; the child was reduced in body and mind. After the ordinary remedies had been prescribed for six weeks, he ordered six drops of the alcoholic tincture of *Caladium* in three ounces of water; every three hours a teaspoonful. The child recovered very soon and remained well. 2. A girl, twenty years old, otherwise well, suddenly complains of frequently-returning itching over the genitals, which is finally accompanied with voluptuousness; three months later it was followed by a mucous discharge and a very troublesome eruption of pimples around the genitals. He ordered a mixture of eight drops of the tincture in six ounces of water, every three hours a tablespoonful, which very soon completely cured her.*—(Translated from *Zeit. f. Klin. Med.*, vol. v, No. 1, in *ibid.*).

### *Bromide of Potassium.*

The last No. of the Reports of the Medical and Chirurgical Society of Bordeaux states that an epileptic woman, who took for one year *Bromide of Potassium* in doses varying from thirty grains to one ounce per diem, at last fell a victim to the debilitating effects of this salt, and died in a state of prostration. The same paper mentions a case in which three fourths of a grain of *Tartarized antimony*, given in three tumblers of water, produced severe sickness, weakness of pulse, hiccup, gradual sinking, and death in thirty-six hours.—(*Lancet*, March 6th, 1869).

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* These cases have already been referred to, less in detail, in our 13th vol., p. 509.

## OBITUARY.

### Dr. William Gwynn.

We regret to announce the death of one whose talents and zeal gave promise of a useful and brilliant career, but whose health was so bad as to compel him at an early period of his life to abandon the arduous duties of his profession. The subject of this notice was son of the Rev. S. Gwynn, rector of Ogherton, near Belfast. He was born in 1831 at Lerne, County Antrim. In 1848 he entered the University of Dublin, where he gained *first* Royal Scholarship. In 1849, though only a junior freshman, he obtained a University Scholarship as the highest answering among all the candidates. Throughout his subsequent undergraduate course he gained numerous classical honours, and in 1852 graduated as A.B., and subsequently as M.B. The degree of M.D. was denied him in consequence of his adoption of homœopathy, Professor Stokes refusing to sign his diploma. He practised homœopathy first in Derby and subsequently in Ipswich. His health forced him to retire from practice in 1863. He died at Ryde, of consumption. Dr. Gwynn was married to a Miss Sothern, daughter of a clergyman of the Church of England who held a living near Liverpool, and sister of the celebrated actor. He survived her twelve months. Dr. Gwynn's medical skill and gentle manners had endeared him to a large circle of patients, and he has left many friends and admirers to lament his early death.

## BOOKS RECEIVED.

*Discurso leido en la Facultad de Farmacia de Madrid, por* Cesareo Martin Somolinos, en el acto de recibir la investidura de Doctor. Madrid, 1869. *Relaciones intimas de la Quimica Organica con la Farmacia.*

*The Drift of Modern Medicine.* An Address delivered at the Annual Assembly of the British Homœopathic Society, June 30, 1869, by Alfred C. Pope, M.R.C.S.E., &c. London: Turner, 1869.

*Proceedings of the Annual Meeting of the Benares Homœopathic Hospital and Dispensary Committee,* held on 29th March, 1869.

*Report of the Wolverhampton and South Staffordshire Homœopathic Dispensary.*

*Revista Omiopatica diretta dal* Dr. G. Pompili, Anno xv, No. 1.

*The Homœopathic Sun.*

*The Monthly Homœopathic Review.*

*The Hahnemannian Monthly.*

*The American Homœopathic Observer.*

*The Chicago Medical Investigator.*

*The North American Journal of Homœopathy.*

*The Western Homœopathic Observer.*

*The New England Medical Gazette.*

*L'Art Médical.*

*Bulletin de la Société Homœopathique de France.*

*El Criterio Medico.*

*La Reforma Medica.*

*The Calcutta Journal of Medicine.*

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